



Best Practices Conference XIX

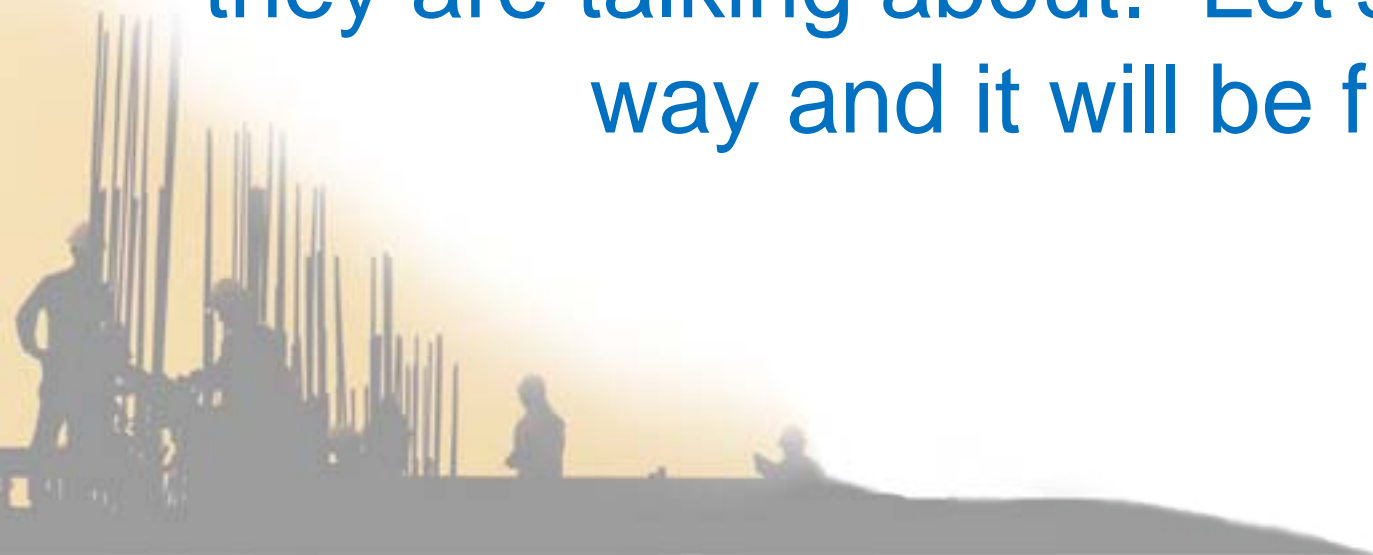
Contracts Committee



Contracts Committee

Who has been on a job where someone on the other side said something like this?

“That contract was written by the idiots in head office, who don’t have a clue what they are talking about. Let’s just do it my way and it will be fine.”





Contracts Committee

We know that reading Contracts can be boring, but it's important to understand the risks and obligations.



Contracts Committee

History of Committee:

- Formed in early 1990s
- Response to increasing complexity, poorly allocated risk, ambiguity
- Mandate from COAA Board
 - Create a 'best practice' for heavy industrial contracting in Alberta





Contracts Committee

Affected parties:

- Owners
- Contractors
- Subcontractors
- Engineers
- Lawyers



Contracts Committee

Guiding Principles:

- Develop a best practice
- Clear on risks and obligations
- Alignment of parties
- Consistent approach
- Provide flexibility
- Standardized format
- Regular review & update



Contracts Committee

Development of Contract Documents:

- Stipulated Price (1997 & 2003)
- EPC (2005)
- EPCM (2008)
- What will be next for 2012?



Contracts Committee

Other Activities of Committee:

- Supporting best practices initiatives
 - Builders' Lien Act
 - Website
 - Prequalification
 - Promotion of Model Contracts
- Collaboration with other Committees



Builders' Lien Act

Builders' Lien Act Initiative:

- Definition of terms “oil or gas well” and “oil or gas well site”
- Provide for periodic release of holdback for major projects

Success! Finalized approach with Board approval



Website initiative:

- Improve ease of use
- Improve 'touch & feel'
- Develop analytical tools

**Success! New website launched last
October**



Promotion

Promotion of Model Contracts:

- Assessed value to industry
- Develop seminar

Success! Seminar in Edmonton last January, and in Calgary last March

Website & Promotion Subcommittees merged in 2010



Voting Button Questions



Promotion

The Contracts Committee plans to hold half-day contract seminars throughout the year. Where would you prefer to attend such a seminar?

- (a) Calgary
- (b) Edmonton
- (c) Fort McMurray
- (d) Somewhere else
- (e) Not applicable to me or my company

What information would you most like to see in a Contracts half-day seminar on heavy industrial contracting?

- (a) An overview of the COAA form of contracts
- (b) Strategies for applying COAA forms
- (c) Practical insight on specific problems
- (d) Some other topic associated with heavy industrial contracting

Promotion

COAA has their forms of heavy industrial contracts online. Have you viewed or downloaded the forms from the website?

- (a) Yes, viewed online
- (b) Yes, viewed online and downloaded forms for use
- (c) No, neither viewed nor downloaded forms
- (d) Eh? COAA has a “website”?

Prequalification

Prequalification initiative:

- Identify problems
- Research causes
- Develop & test solutions
- Develop best practice

Success! Workshops this afternoon to gather final input and test solutions





Prequalification

Voting Button Questions



Prequalification

At last year's conference, survey results showed that only 7% of attendees felt that industry prequalification processes were efficient. Compared to a year ago has your prequalification experience:

- (a) Improved
- (b) Worsened
- (c) No change
- (d) Prequalification does not apply to me

Prequalification

What do you believe is the most desired benefit in adopting a prequalification best practice?



Prequalification

- (a) Eliminate repeated contracting with firms that perform poorly
- (b) Reduce the time and effort involved in participating in selection processes
- (c) Identify yourself as a preferred client by having a streamlined process
- (d) Reduced Contractor/Subcontractor overheads thus reducing costs to Owner
- (e) Free up time of senior personnel to focus on value-adding services



Prequalification

What is the number one reason you prequalify your Contractors or Subcontractors?



Prequalification

- (a) Identify the risks associated with using a particular contractor
- (b) Reduce risk through the selection of better qualified/performing contractors
- (c) Reduce the cost of procurement
- (d) Reduce the time required for procurement
- (e) As a communication tool with Contractors/Subcontractors
- (f) Prequalification does not apply to me



Website

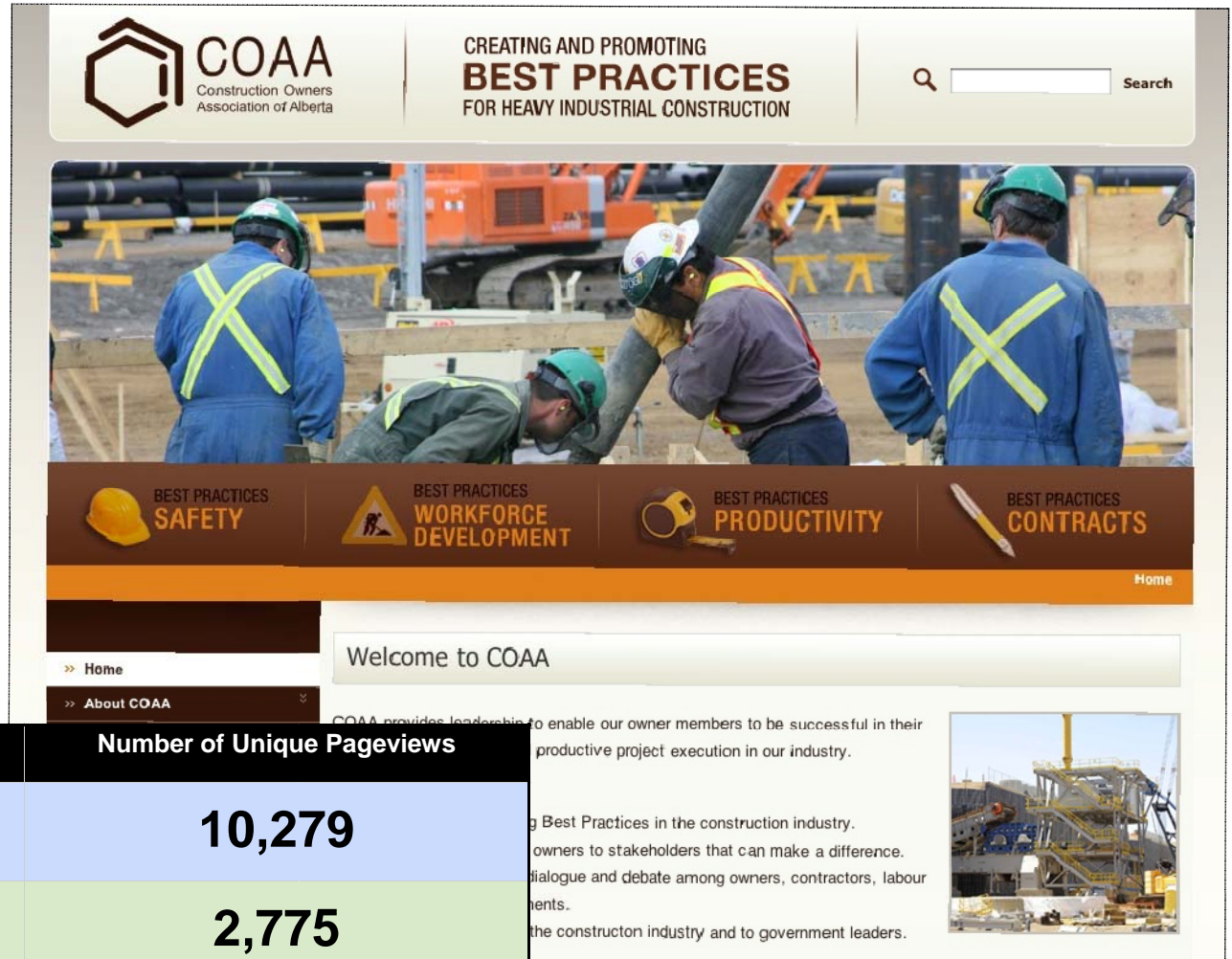
Website usage
statistical information
available through Google Analytics

October 2010 through May 2011



Top 5 Pages

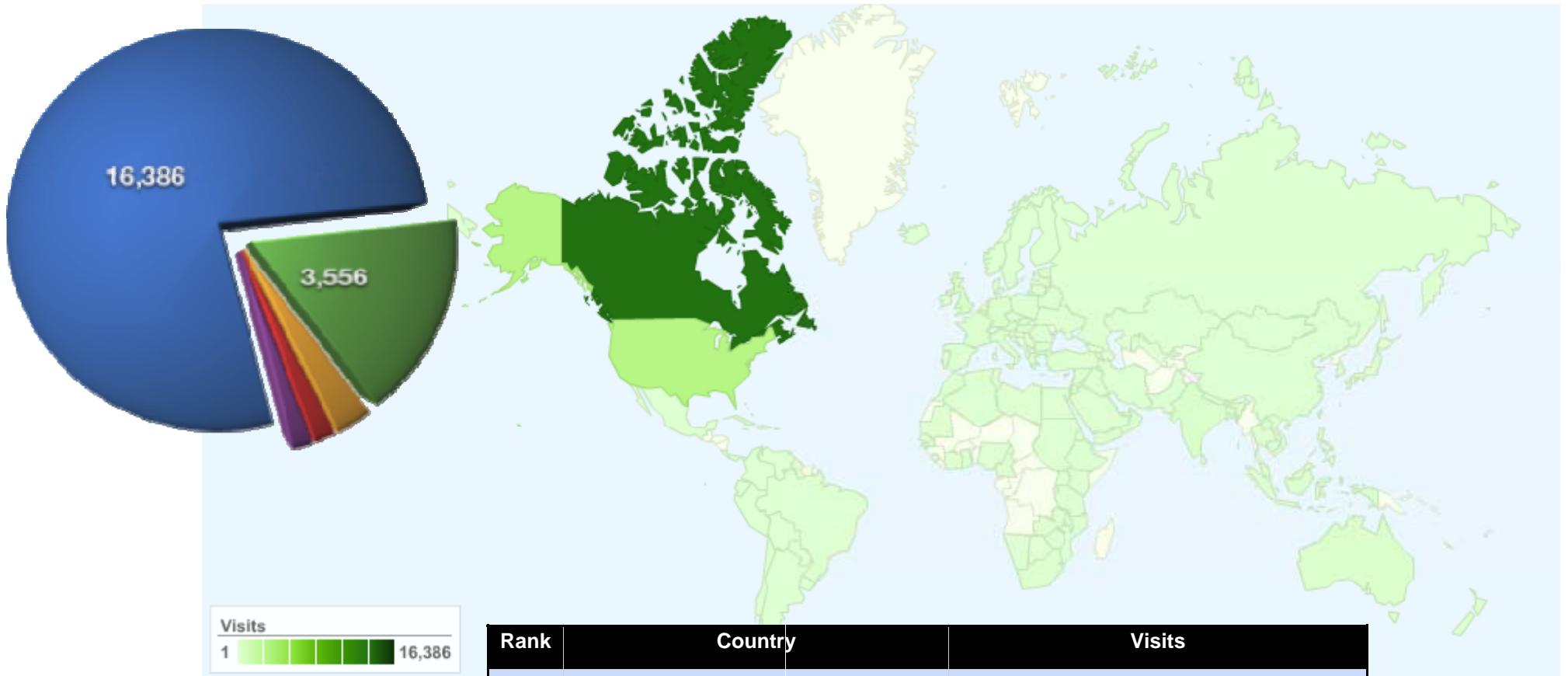
Website



Rank	Page	Number of Unique Pageviews
1	COAA Homepage	10,279
2	Safety	2,775
3	Contracts	2,137
4	Workforce Development	2,113
5	Workface Planning	1,944

Top 5 Countries

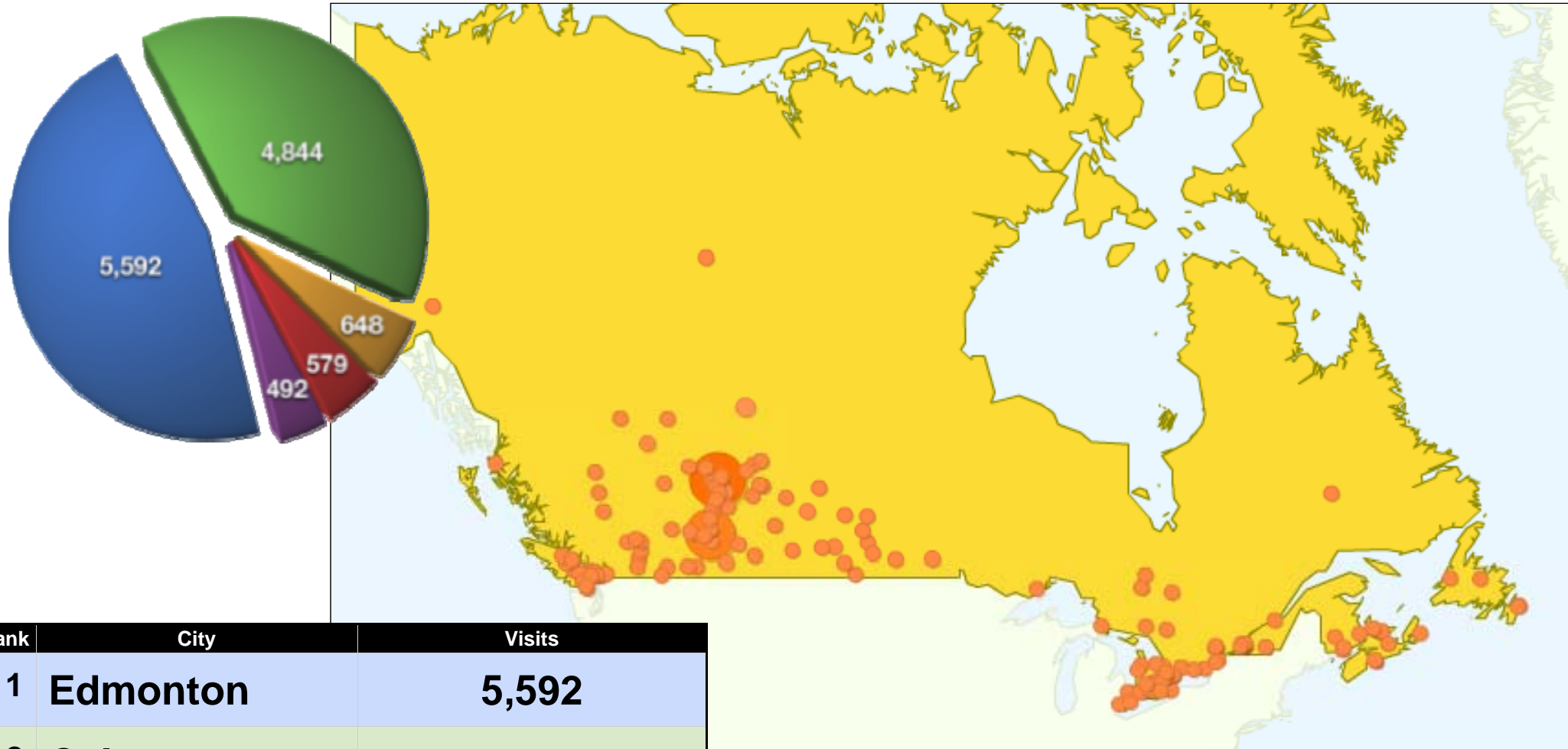
Website



Rank	Country	Visits
1	Canada	16,386
2	United States	3,556
3	United Kingdom	614
4	Australia	360
5	India	334

Top 5 Canadian Cities

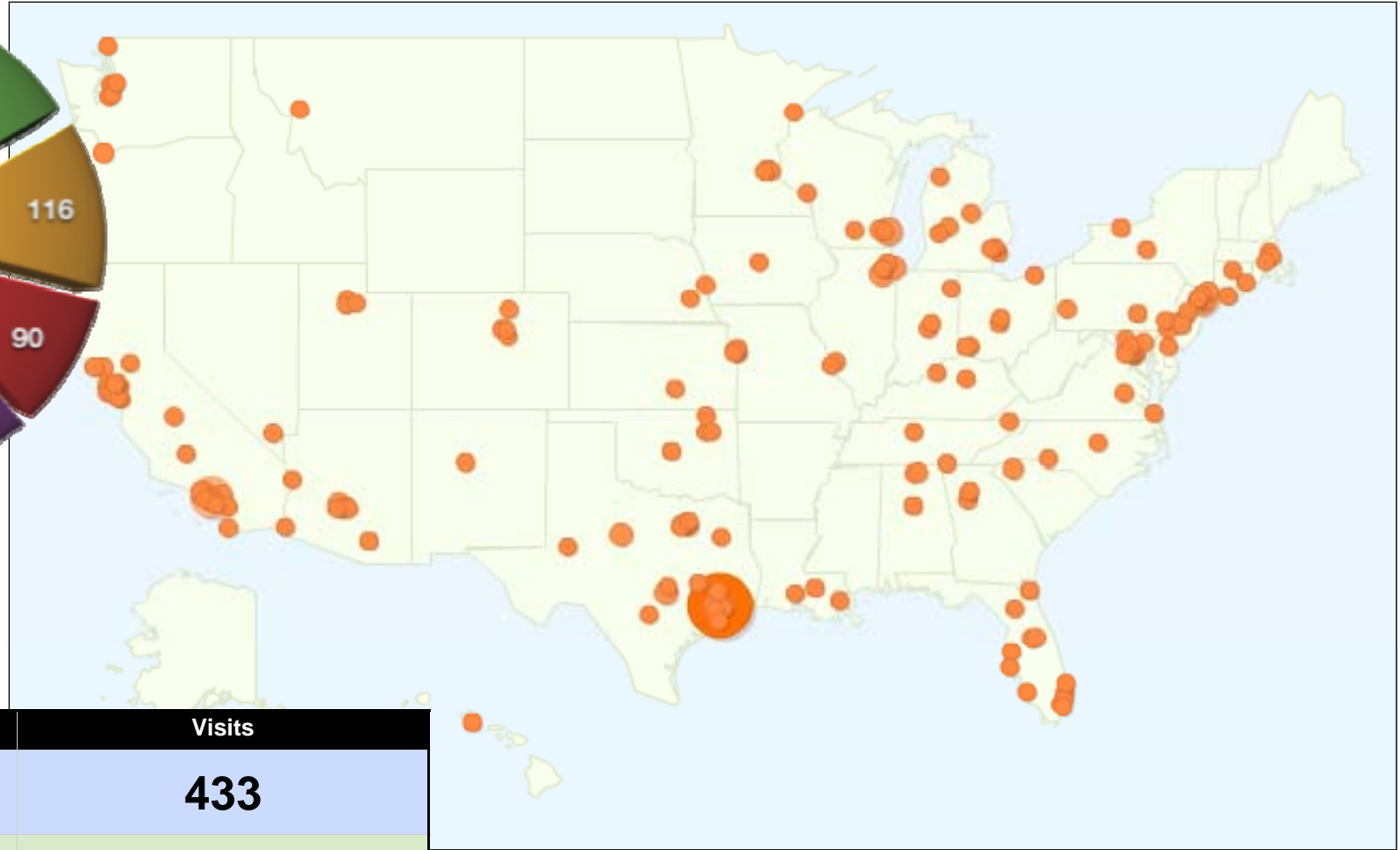
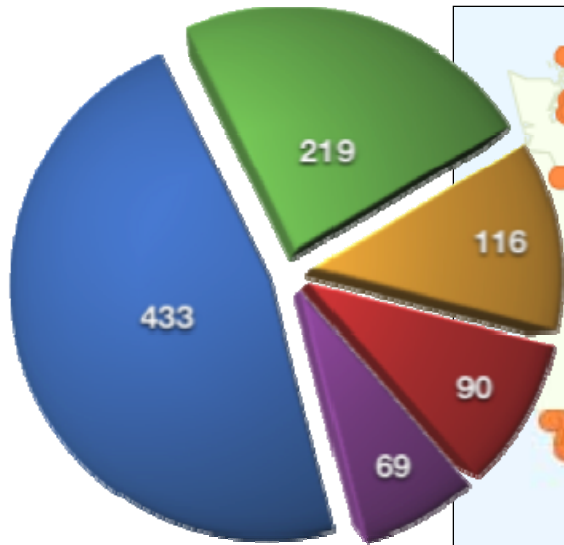
Website



Rank	City	Visits
1	Edmonton	5,592
2	Calgary	4,844
3	Fort McMurray	648
4	Vancouver	579
5	Toronto	492

Top 5 U.S. Cities

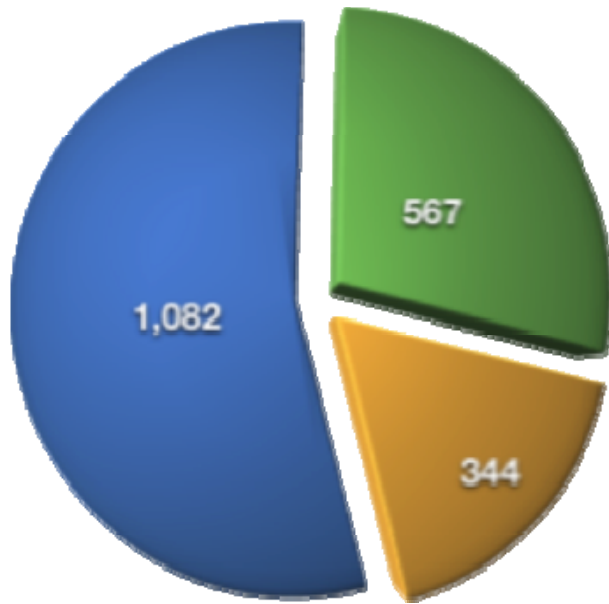
Website



Rank	City	Visits
1	Houston	433
2	Anaheim	219
3	New York	116
4	Milwaukee	90
5	Plainfield	69

Top 5 Contract Types

Website



COAA EPCM Contract 2008
(Engineering, Procurement and Construction Management Contract)

Between

MonsterOne Co.

- and -

GorillaTwo Co. 2

|

Effective Date: May 2011

Note to Users: This EPCM Contract contains a number of blanks to be completed on a project-specific basis. These blanks are indicated by: ☐. There are also notes within the text which require further consideration of the specific project requirements before completing.

Draft: For COAA Board Approval

**CONSTRUCTION OWNERS ASSOCIATION
OF ALBERTA**

EPCM Contract (2008)
 COAA Best Practices Contract
 Page 1 of 51

Rank	City	Visits
1	EPC	1,082
2	EPCM	567
3	Stipulated Price	344

Top 5 Referring Sites

Website



Rank	City	Visits
1	isnetworld.com	378
2	clra.org	168
3	acsa-safety.org	132
4	retscan.net	102
5	cannamm.com	86



Contracts Committee

**Thanks for
your time!**





Canadian Model Best Practice Review

COAA Best Practices Conference XIX Canadian Model Best Practice Review

May 18, 2011





Workshop Ground rules

Please:

- put your cell phone on silent or vibrate,
- avoid side conversations, and
- keep all questions to the end.



Deliverables

Provide an understanding of:

- The history to, and the details of the recent changes to the Canadian model.
- Impacts of the recent changes to the DOT drug and alcohol testing protocols.
- The status of alcohol and drug testing within industry and human rights law.

Opportunity for questions



Peter Dunfield

- Chairperson for the COAA Canadian Model Best Practice for Alcohol and Drugs Guidelines and Work Rule (2003, 2005 and 2010 revisions).

Dr. Randy Leavitt

- Dr. Randy Leavitt is Vice President of Pharmaceutical, Forensic and DNA Services at Maxxam Analytics.

Neil Tidsbury

- President of Construction Labour Relations

Philip Ponting

- Partner in McLennan Ross practicing administrative law with the major focus on employment law.



Canadian Model Workshop - May 18, 2011

The background of the slide is a faded, high-angle photograph of a construction site at dusk or dawn. Silhouettes of construction workers are visible against the bright sky, working on a structure. A large tower crane is the central focus, with its long jib extending across the frame. Other workers are seen in the foreground and midground, some handling materials or equipment.

Canadian Model For Providing a Safe Workplace

Addendum

October 2010

Peter Dunfield

Canadian Model for Providing a Safe Workplace

A best practice of the
Construction Owners
Association of Alberta

Alcohol and Drug
Guidelines and Work Rule



FEBRUARY 1999

Canadian Model for Providing a Safe Workplace

A best practice of the
Construction Owners
Association of Alberta

Alcohol and Drug
Guidelines and Work Rule



MAY 2001

CANADIAN MODEL FOR PROVIDING A SAFE WORKPLACE

A best practice of the
Construction Owners
Association of Alberta

Alcohol and Drug
Guidelines and Work Rule



October 2005

Development of the Model has been an evolving process since 1999

The Model has been updated and revised to reflect the state of law and industry needs with versions published in 1999, 2001 and 2005

The most recent version of the Model was published as an Addendum in October 2010

**CANADIAN MODEL
FOR PROVIDING A
SAFE WORKPLACE**

A best practice of the
Construction Owners
Association of Alberta

Alcohol and Drug
Guidelines and Work Rule



October 2005 – Version 2 – Effective October 1, 2010

October 2010 Addendum

**This Addendum updates
and replaces the
corresponding sections of the
October 2005 Canadian Model.**

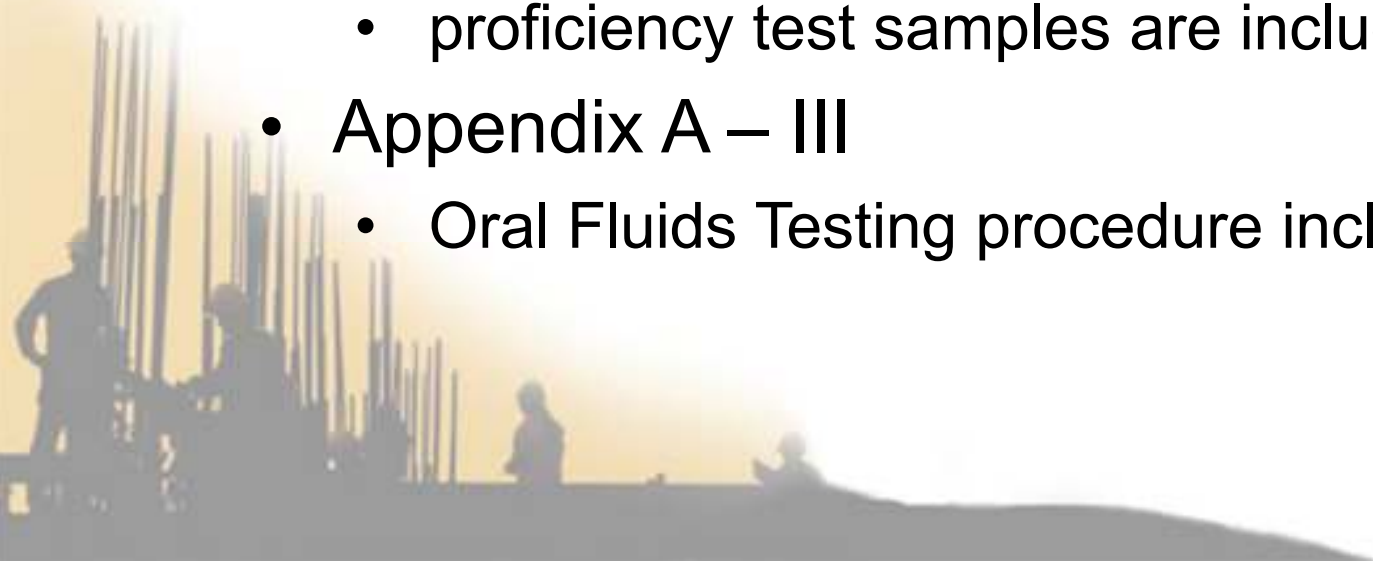
**Revisions reflect
required drug concentration
cut-off limits changes
in effect from October 1, 2010**

Key changes in the Addendum

- Section 3.1 Policy
 - New urine cut-off limits – amphetamines, cocaine, and 6-Acetylmorphine (Heroin)
 - Oral fluids drug panel as used in RSAP
- Section 4.6.3 (Random Testing)
 - to align with goals and objectives of the Drugs and Alcohol Risk Reduction Pilot Project
- Section 4.8
 - oral fluids to be done by a certified lab
 - oral fluids may be used for post incident, reasonable cause, and random testing

Key changes in the Addendum

- Definition of Certified Laboratory
 - acceptable forensic practices and quality systems are maintained
 - specimen validity testing is deployed
 - regular independent audits occur, and
 - proficiency test samples are included
- Appendix A – III
 - Oral Fluids Testing procedure included




Recent Questions...

- POCT devices not compliant to new Standards?
- Why not Oral fluids testing for Site Access?
- Should Owners receive Contractor test results?
- Duty to accommodate after a second positive tests?
- MRO Results – Medical Marijuana?
- Prosecutions for Impaired driving of company vehicles?



Canadian Model Workshop - May 18, 2011

The background of the slide is a faded, high-angle photograph of a construction site at dusk or dawn. Silhouettes of construction workers are visible against the bright sky, along with a large tower crane and various structural elements of a building under construction.

Recent Changes to DOT Drug & Alcohol Regulations: *Implications for Canadian Model Stakeholders*

Dr. Randy Leavitt

CANADIAN MODEL FOR PROVIDING A SAFE WORKPLACE

A best practice of the
Construction Owners
Association of Alberta

Alcohol and Drug
Guidelines and Work Rule

Why are there various levels or standards for testing for alcohol? For example, if the level for impaired driving is 0.08 grams of alcohol in 210 litres of breath, why does this model use 0.04 grams of

Can the company test me for other drugs besides those listed, or test for other medical purposes?

A company may choose to test for other drugs but these should be stated in the

The U.S. DOT standards have been mandated for the COAA Best Practice (Canadian Model for Providing a Safe Workplace) to ensure quality testing and legal defensibility of results.

in 210 litres of breath as cause to suspend a driver from driving at the time without further disciplinary action and a level of 0.04 grams of alcohol in 210 litres of breath as cause for suspension and disciplinary action.

Why are we using the United States Department of Transportation (U.S. DOT) standards for testing of Canadian workers?

The U.S. DOT standards are a rigorous set of procedures and protocols for employment-related drug testing. They were developed to ensure fair and reliable testing of workers covered by the United States mandatory drug

testing regulations. Instead of having no mandatory drug testing, the U.S. DOT standards have been mandated for the COAA Best Practice (Canadian Model for Providing a Safe Workplace) to ensure quality testing and legal defensibility of results.

Where can a copy of the U.S. DOT standards be obtained?

Copies of the standards may be obtained from laboratories that are certified to perform testing under the U.S. DOT standards. Alternatively, the standards can be found on the Internet.

a retest on the split portion of the original specimen, normally at the donor's expense, at the same laboratory or an alternative certified laboratory. This request must be made within 72 hours of the employee being notified by the MRO that the first test was found to be positive.

What are "reasonable grounds"?

In a case where an employee is caught distributing, possessing, consuming or using alcohol or drugs at work, an alcohol and drug test is not required to establish a breach of the standards. The act itself constitutes a breach of the standards set by the guidelines.

Appreciating that there may not always be direct evidence of a breach, and recognizing that early detection of safety concerns before the occurrence of an accident or incident is the hallmark of effective safety and loss management, testing is encouraged in cases where there are "reasonable grounds" for a supervisor or leader to believe that an employee may have consumed or used alcohol or drugs at work or may be under the influence of alcohol or drugs.

"Reasonable grounds" for believing that an employee may be in breach of the standards concerning detectable levels of alcohol or drugs can arise in two general situations.



Why US DOT?

DOT establishes rules (49 CFR Part 40) on drug and alcohol testing:

- Specimen Collection
- Drugs/concentrations to be tested
- Specimen validity tests
- What scientific procedures to use when testing
- Standards for certification and review of laboratories



Scientific Accuracy
+
Forensic Integrity = **Legal Defensibility**



DOT Analytical Strategy

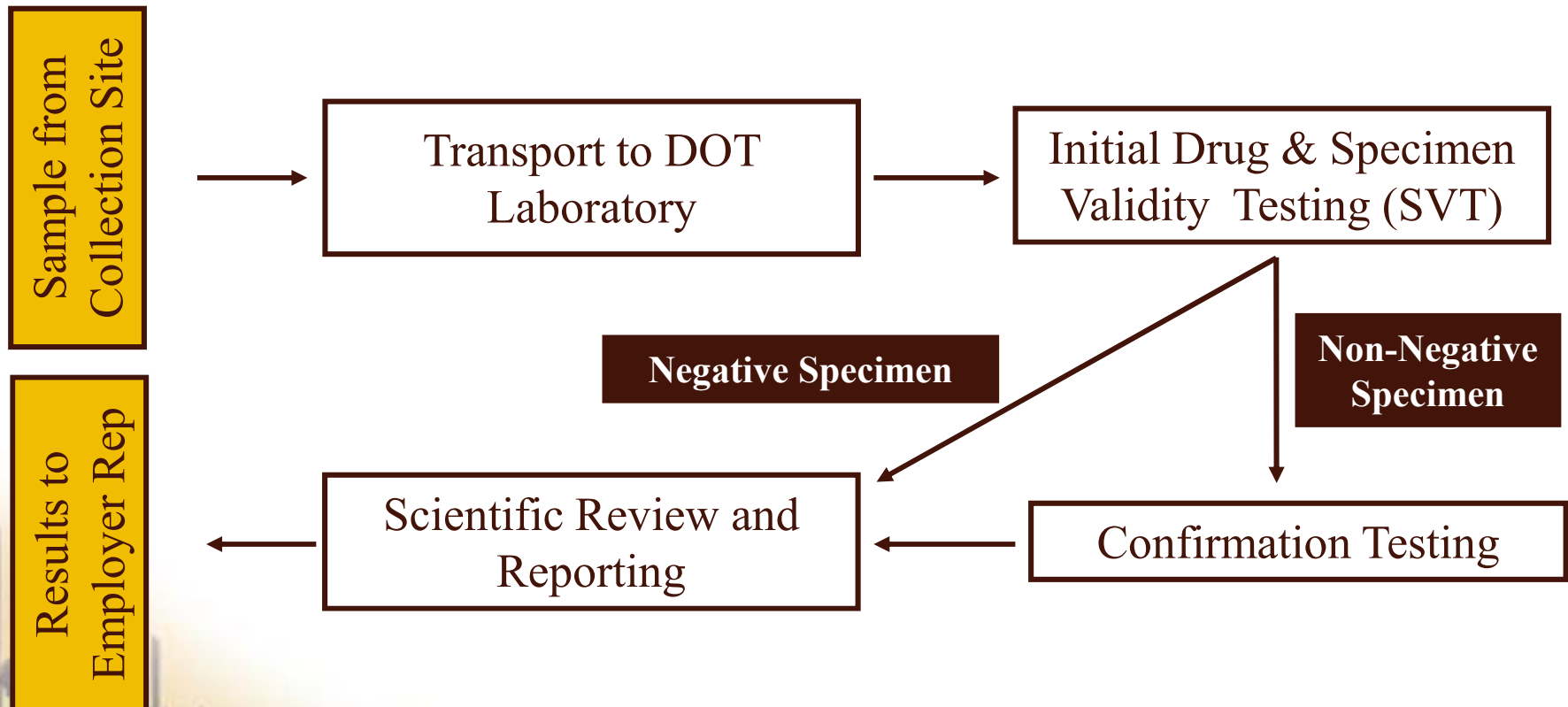
Cocaine

Marijuana

Opiates

Amphetamines

Phencyclidine



April 2004 Proposed Changes

1. Addition of heroin and ecstasy (MDMA) to initial test suite
2. Lower cutoff concentrations for cocaine and amphetamines
3. ~~Oral fluid, sweat and hair with drug cutoff concentrations~~
4. ~~Point of Collection Testing Devices – Quick Tests~~
5. Certification of Instrumented Initial Test Facilities (IITF)
6. Additional standards for collectors, collection facilities and MRO's

**Notice of Final Revisions Nov. 2008 →
Implementation Oct 2010**



Initial Test Analyte	Initial Test Cutoff Concentration	Confirmatory Test Analytes	Confirmatory Test Cutoff Concentration	Required Change
Marijuana metabolites*	50 ng/mL	THCA	15 ng/mL	
Cocaine metabolites*	150 ng/mL	Benzoylcegonine	100 ng/mL	Lower cutoffs
Opiate Metabolites				
Codeine/Morphine	2000 ng/mL	Codeine Morphine	2000 ng/mL 2000 ng/mL	
6-Acetylmorphine	10 ng/mL	6-Acetylmorphine	10 ng/mL	Specific initial test
Amphetamines				
AMP/MAMP	500 ng/mL	Amphetamine	250 ng/mL	Lower cutoffs
		Methamphetamine	250 ng/mL	Lower cutoffs
MDMA	500 ng/mL	MDMA	250 ng/mL	Initial & confirmatory test
		MDA	250 ng/mL	Confirmatory test
		MDEA	250 ng/mL	Confirmatory test
Phencyclidine	25 ng/mL	Phencyclidine	25 ng/mL	



Implications of Required Changes

Positive Rates:

Lower Cocaine Cutoffs

- 88% increase in detection rate with concomitant increase in confirmed positives (Clinical Reference Laboratory)
- 30% increase in detection and confirmation rates (Quest Diagnostics)

Lower cocaine metabolite cutoff concentrations have translated into significantly more cocaine positive reports



Implications of Required Changes

Positive Rates:

Heroin Metabolite

- Number of positives increase 8-29% (Research Triangle Institute literature review)
- 819/820 positive 6-AM samples had morphine > 2000 ng/mL (Clinical Reference Laboratory)
- Of 1.2M opiate positive samples, 6 samples had positive 6-AM concentrations that would have been missed (Quest Diagnostics)

Increase in Positive Rate for heroin is inconsequential due to the low prevalence of heroin use in the demographic



Implications of Required Changes

Positive Rates:

Amphetamines

- 3100 samples tested: confirmations increased from 11 to 51 with 0 additional reportable positives (Clinical Reference Laboratory)
- Positive screen rate for lower AMP cutoff expected to increase 40% to approx. 1 per 100 specimens. Also, MDMA positive rates expected to be 1 per 10,000 specimens (Quest Diagnostics)

Lower cutoff concentrations for Amphetamines will increase number of confirmation tests but not number of reportable positives.

Addition of MDMA to test suite will identify a small number of positive samples



Implications of Required Changes

Other Considerations:

- Longer detection times for drug use
- Increased costs for drug testing programs
- Longer turnaround times





Canadian Model Workshop - May 18, 2011

Trends and Emerging Issues in Industry

Neil Tidsbury



Trends

- Declining “Reasonable Cause” Frequency
- “Reasonable Cause” Failure Rate ~50%
- “Post Incident” Failure Rate ~7-9%
- “Site Access” Failure Rate ~4-5%



Trends

- Sharp increase in SAE assessments past two years
- Longer wait for Drug Test Results
- Preference for Oral Fluid Drug Tests



Collective Bargaining

- References to 2010 Updated Canadian Model
- Reservation of limited Grievance prerogatives
- Oral Fluids for RC, PI, Random
- Few Canadian Model based grievances



Concerns

- Prevalence of “Point of Collection Tests”
 - Not consistent with Canadian Model
- Process deviations



Drug & Alcohol Risk Reduction Project

- Project Documents
- Pilot Project Coordinator
- Owner alignment
- Application process
- Preparation for launch
- Fall 2011?



Drug and Alcohol Testing in the Workplace

*Prepared by Phil Ponting, Q.C. and
Jody Sutherland of McLennan Ross LLP*



WORKPLACE TESTING AND THE “CASUAL” USER

OVERVIEW

- The Alberta Court of Appeal decisions in *Alberta (Human Rights and Citizenship Commission) v. Kellogg Brown & Root (Canada) Company (Chaisson)* and in *Donald Luka v. Lockerbie & Hole Inc.* and *Syncrude Canada Ltd. (Luka)* have confirmed that pre-employment drug testing does not discriminate against “casual” users based on perceived disability and Syncrude is not an employer of Lockerbie’s employees.
- Any policy regarding this type of pre-employment drug testing is therefore not *prima facie* discriminatory under the *Human Rights, Citizenship and Multiculturalism Act*.
- *Chaisson* and *Luka* have since prompted the Director of the Human Rights Commission to dismiss several claims on the basis that there are no facts or law that exist that would support findings of discrimination.



WORKPLACE TESTING AND THE “CASUAL” USER

Stilwell v. Edmonton Exchanger & Manufacturing Ltd., 2010 AHRC 5

- **The late Cam Stilwell filed complaint against his employer and Syncrude.**
- **Complaint was dismissed because complainant now deceased.**
- **Tribunal held legislation does not permit any other party to take over a complaint should a complainant die.**
- **Even after death, Cam still pointing out defects in legislation.**

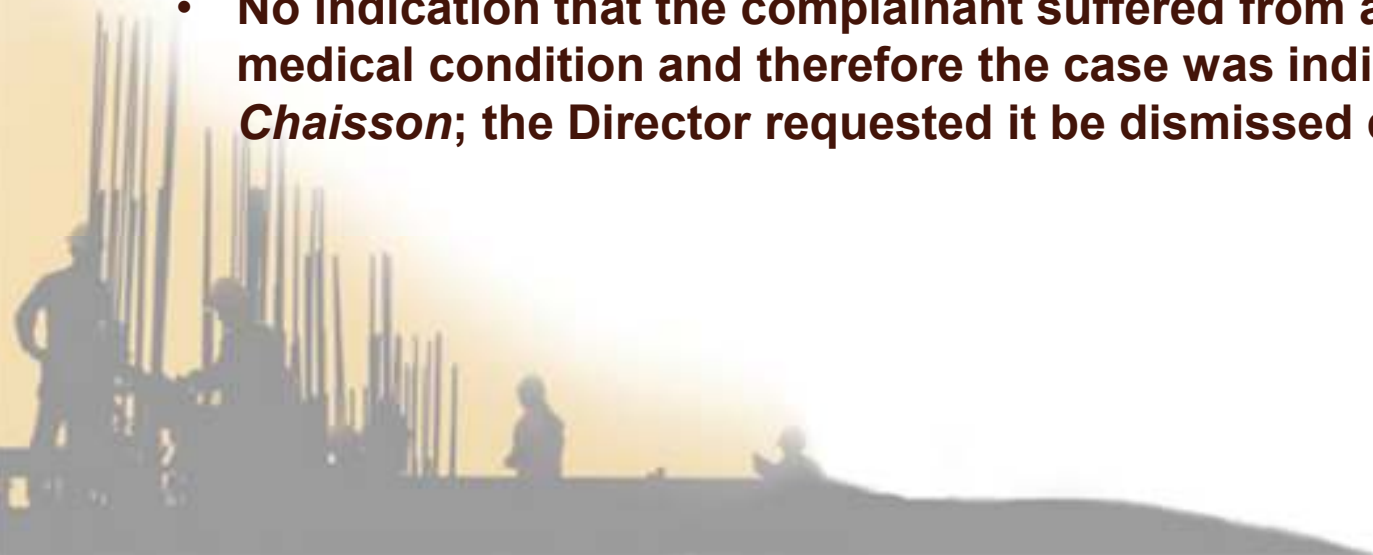




WORKPLACE TESTING AND THE “CASUAL” USER

Ofstedahl v. Comstock Canada Ltd., 2010AHRC 4

- Complainant alleged discrimination when foreman required drug and alcohol test after smelling alcohol on complainants breath at work.
- After the test, complainant was told to return home to await results.
- The following week complainant was told he failed the test and was banned from the worksite for the next six months.
- No indication that the complainant suffered from an addiction or other medical condition and therefore the case was indistinguishable from *Chaisson*; the Director requested it be dismissed entirely.



WORKPLACE TESTING AND THE “CASUAL” USER

Bley v. Syncrude Canada, 2010 AHRC 6

- **Complaint brought after Bley saw a posting on employer’s bulletin board regarding new Syncrude policy requiring pre-access or pre-employment drug and alcohol testing. Without the testing, access would be denied.**
- **Commission acknowledged that, as per *Chaisson*, drug and alcohol testing policies have a role in managing risk in safety sensitive workplaces and are not discriminatory. The complaint was dismissed.**
- **Point for the future – Director is recorded as saying in own submissions that it is acceptable for employers to require a job-related medical examination where it relates to the requirements of the job.**





Lockerbie & Hole Industrial Inc. v. Alberta (Human Rights and Citizenship Commission, Director), 2011 ABCA 3

Facts

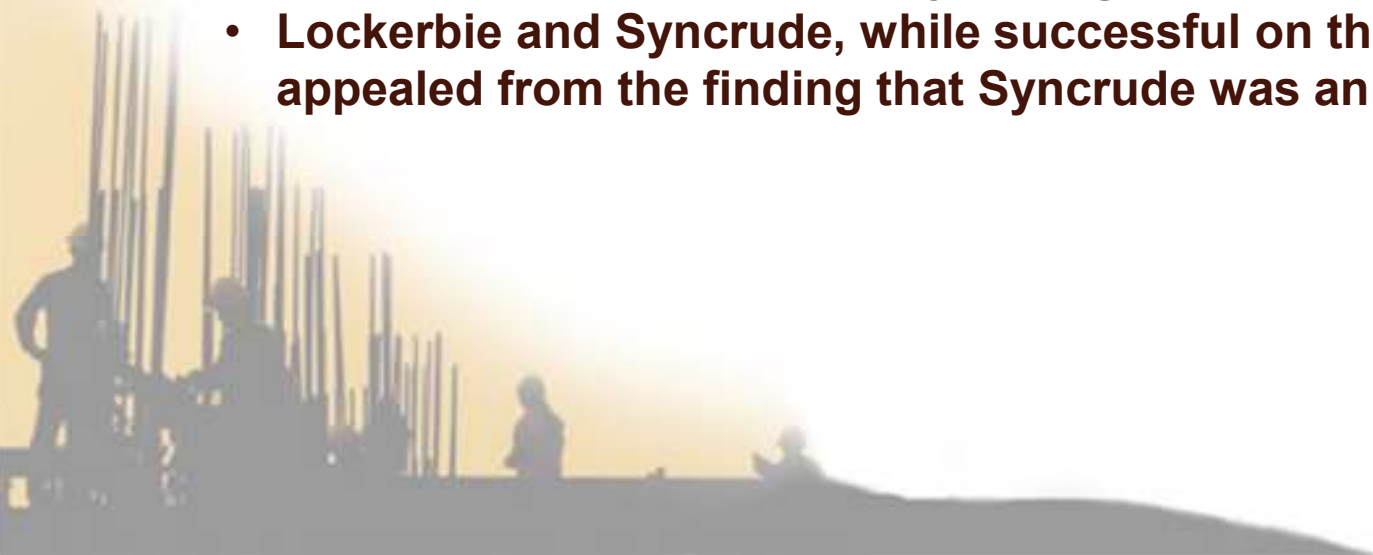
- **Luka was long-term employee of Lockerbie & Hole, a contractor for Syncrude.**
- **Upon being transferred to perform work at Syncrude site, Luka was required to undergo and pass a drug test**
- **Syncrude policy stated that no contractor could bring a worker onto the site unless a drug test had been passed.**
- **At no point was Syncrude ever Luka's employer in any conventional sense.**
- **Lockerbie & Hole hired, paid and directed Luka's activities.**
- **After testing positive for marijuana, Luka brought a complaint to the Human Rights Commission alleging discrimination.**



Lockerbie & Hole Industrial Inc. v. Alberta (Human Rights and Citizenship Commission, Director), 2011 ABCA 3 (cont'd)

Facts (cont'd)

- **The decision of the Commission was significant for two reasons:**
 - i. held that Luka had not been discriminated against as he was not an addict, and therefore, there was no duty to accommodate.**
 - ii. held that Syncrude was not Luka's employer in the conventional sense, but was considered an employer because it was utilizing Luka's services indirectly through Lockerbie.**
- **Lockerbie and Syncrude, while successful on the discrimination issue, appealed from the finding that Syncrude was an employer.**

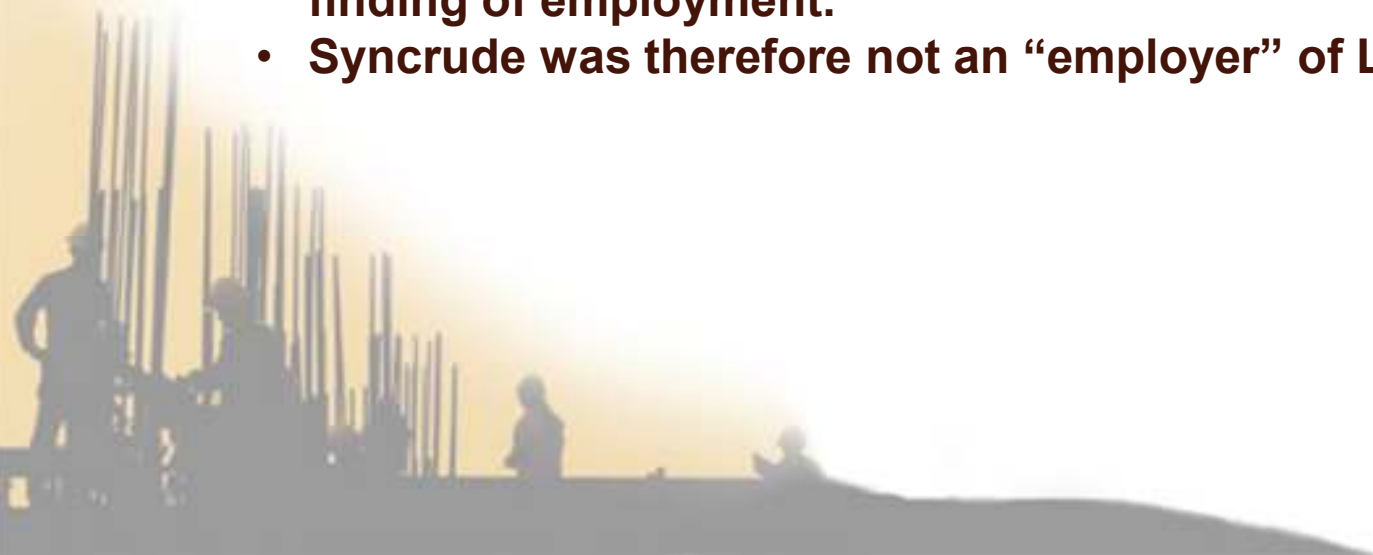




Lockerbie & Hole Industrial Inc. v. Alberta (Human Rights and Citizenship Commission, Director), 2011 ABCA 3 (cont'd)

Decision

- **Court of Appeal found that there was no contractual relationship between Syncrude and Luka, Luka was not functionally part of its organization and did not report to it, and Syncrude did not direct Luka's work.**
- **The relationship between Luka and Syncrude was too remote to justify a finding of employment.**
- **Syncrude was therefore not an "employer" of Luka.**





Rio Tinto Alcan Primary Metal Kitimat/Kemano Operations B.C. and National Automobile, Areospace Transportation and General Workers of Canada (CAW-Canada), Local 2301 2011 CanLII 7211 (BC L.A.)

Decision

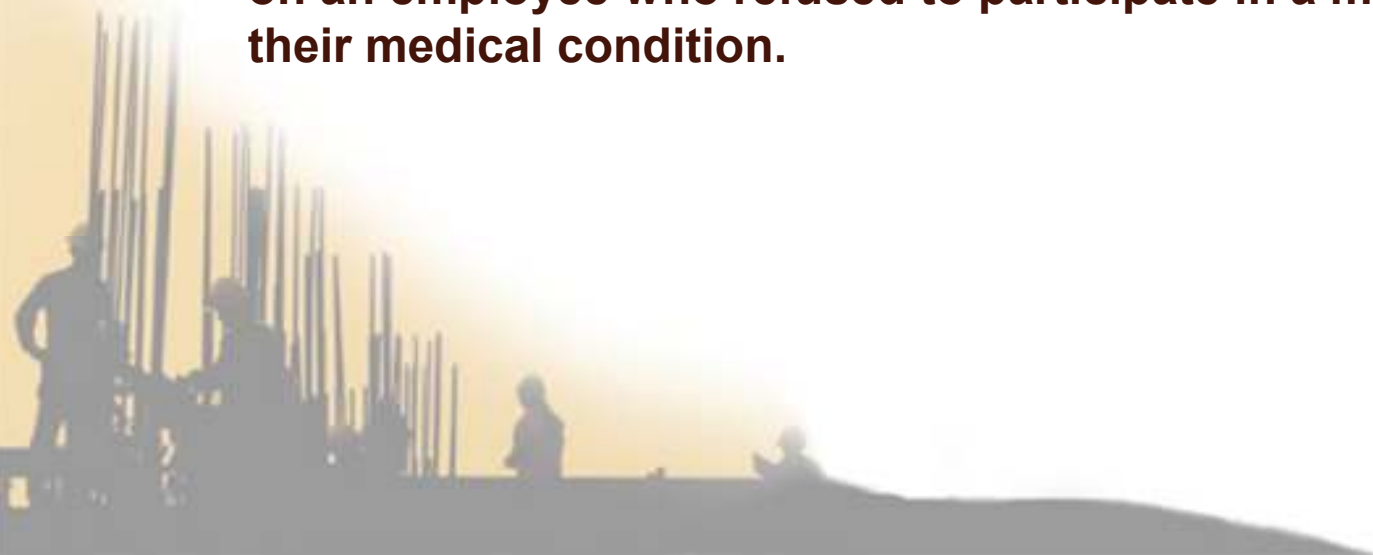
- **Arbitrator emphasized that:**
 - **The Employer has the right to introduce unilateral rules and policies, subject to it being consistent with the collective agreement.**
 - **The Employer is required to remove hazards from the workplace - an employee who is impaired for any reason may be such a hazard.**
 - **The Employer is entitled to insist that an employee take an immediate test for alcohol or drug use where there are reasonable grounds for the test, and if the employee refuses, he/she can be disciplined.**



***Rio Tinto Alcan Primary Metal Kitimat/Kemano
Operations B.C. and National Automobile, Areospace
Transportation and General Workers of Canada (CAW-
Canada), Local 2301 2011 CanLII 7211 (BC L.A.)***

Decision

- **An Employer is not, however, entitled to discipline employees for refusal to provide medical information or participate in medical tests that are not associated with unauthorized substance use or abuse.**
- **To this extent, the Policy was found unreasonable as it imposed penalties on an employee who refused to participate in a medical assessment of their medical condition.**



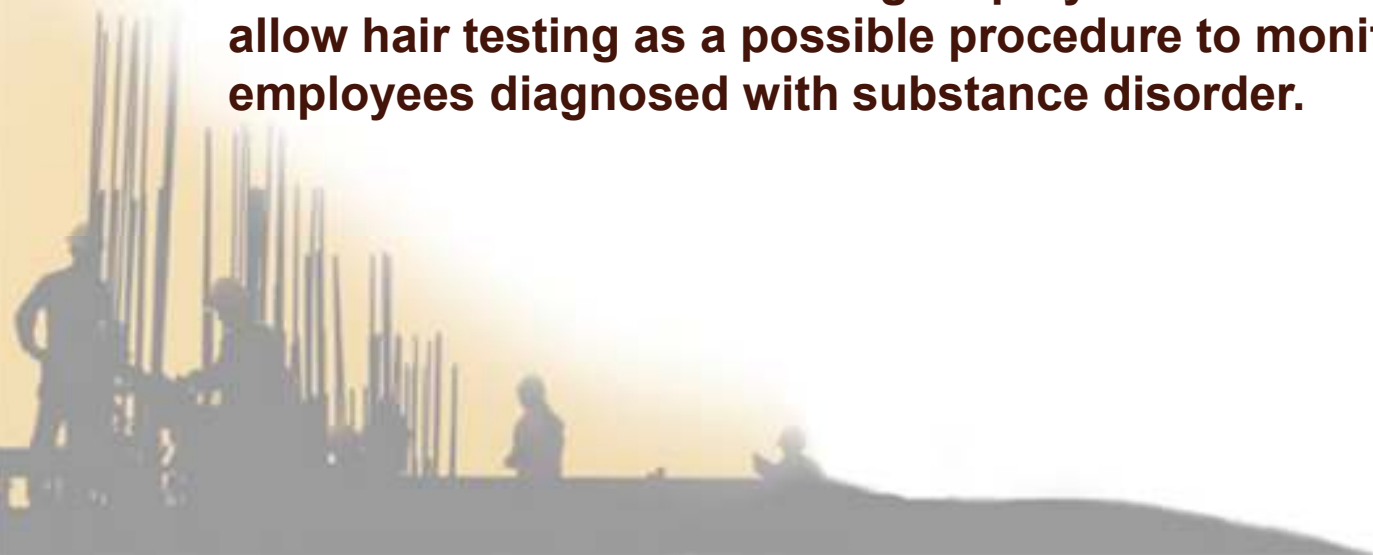


THINGS TO WATCH FOR - ALTERNATIVE FORMS OF TESTING

***(Re) Canadian National Railway Co. and Teamsters
Canada Rail Conference 2011 CLB 8064***

Facts

- **Union brought complaint regarding reasonableness of Company's decision to amend continuing employment/reinstatement contracts to allow hair testing as a possible procedure to monitor abstinence for employees diagnosed with substance disorder.**





(Re) *Canadian National Railway Co. and Teamsters*
Canada Rail Conference 2011 CLB 8064 (cont'd)

Decision

- **Grievance rejected on procedural grounds.**
- **Deliberately, no comment was made regarding whether hair testing, as part of the ongoing employment regime of a reinstated employee would or would not violate the collective agreement or the protections of employment related statutes such as the *Canadian Human Rights Act*.**





***(Re) Canadian National Railway Co. and Teamsters
Canada Rail Conference 2011 CLB 8064 (cont'd)***

Decision (cont'd)

- **The decision says that determining reasonableness of hair testing will depend on evidence as to the nature of information gathered and/or the reliability of hair testing results and the issues of custody and privacy that may relate to it.**
- **Expect to see more decisions with regard to the above, if this or similar types of alternative testing are implemented.**





Best Practice Conference XIX

Safety Performance Improvement

May 18th, 2011





Overview

- Introduction and Mandate
- Scope
- Critical Factors
- HSE Indicators
- Responsibilities
- Education and Training - Orientation
- Auditing & Ongoing Program Review
- Implementation
- Supporting Materials
- Supporting Best Practices
- Discussion





Best Practice – Team Members

- Winston Fynn (co chair)
- Tim Gondek (co chair)
- Phil Wilson
- Dave Hagen
- Doug Batke
- Sean Evans
- Robert Gould
- Dave Ferro
- Ryan Heinish
- Hardy Lange



Introduction and Mandate

- Develop an industry best practice to stimulate continuous Health Safety Environmental (HSE) Performance
- Focus to balance “Leading Indicators” with “Lagging Indicators”
- Encourage use & adoption of leading indicators to drive HSE continuous improvement in order to overcome the traditional focus on lagging indicators .
- Key is to track compliance with Industry Best Practices. Define responsibilities and develop user friendly HSE Performance Reporting tools.
- Provide range of improvement initiatives and related tools and / or provide links to a wider range of tools and reference materials



Scope – HSE Indicators

Two characteristics are used to describe HSE Performance Measurement (& Related Reporting) :

➤ “Leading HSE Indicators”:

- Defines HSE activities which, if used to respond to potential negative or unwanted outcomes, could mitigate “Lagging Indicator” metrics if performed to a level considered to be “Best Practice

➤ “Lagging HSE Indicators”:

- Defines post incident, reactive HSE Metrics traditionally used to measure HSE performance – often in isolation of consideration to their relevance to “Leading HSE Indicators” and their associated potential positive influence on such “Lagging HSE Indicators”



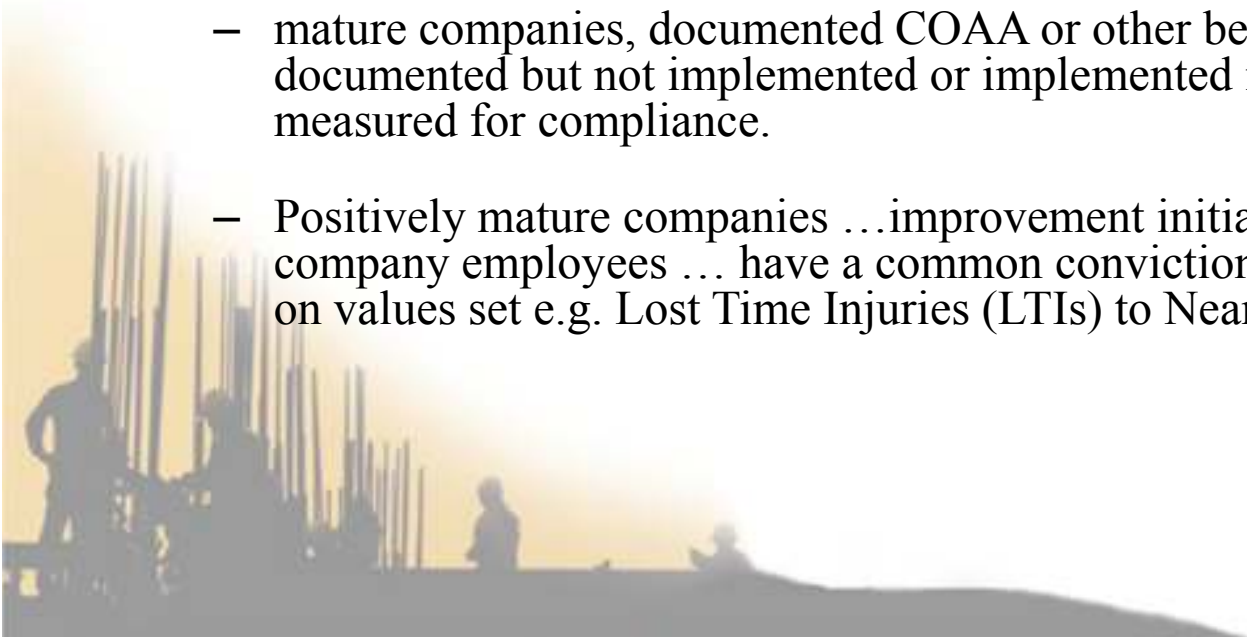
Critical Factors – Setting Goals for Improvement

- Effective performance measurement metric must be measurable, fit for purpose, add value and be achievable across the organization, facility or site
- Performance Improvement Initiatives will vary based on individual company, facility or work site safety maturity levels
- Companies trying to reduce fatalities ... different improvement strategy than one with a best in class recordable injury rate
- Some company improvement starting point may be trying to implement or improve COAA or other industry best practice
- Measure their current performance (base line)
- Set goals for expected improvement & attainable targets



Critical Factors – Establish Baseline

- Baseline and improvements fashioned on internal (company) benchmarks of what is considered to be achievable
 - Injury frequency statistics (among other things)
 - May be basic non-compliance of documented safety program or local legislation requirements
 - mature companies, documented COAA or other best practices may be documented but not implemented or implemented in a manner that is not measured for compliance.
 - Positively mature companies ...improvement initiatives set with all levels of company employees ... have a common conviction for Zero Incidents ...based on values set e.g. Lost Time Injuries (LTIs) to Near Miss) is achievable





Critical Factors – Setting Monitoring Criteria

- Set monitoring criteria / tools to ensure sustained continual HSE Performance improvement.

Consider:

- Focus on appropriate selection of metrics specific to work stage and work dynamic
- Lagging Indicators are already well established.
- Leading Indicators must be selected early in a project / activity
- Focus should be on implementation, visible management / supervision leadership and participation by all employees
- Whenever possible, all key stakeholders should be involved in selecting the leading Indicators
- Method for tracking and reporting must be crystal clear
- Have time and people allocated to execute on measures chosen
- Measure performance using exposure hours to gauge overall performance re: leading and lagging indicators.



HSE Indicators - Leading

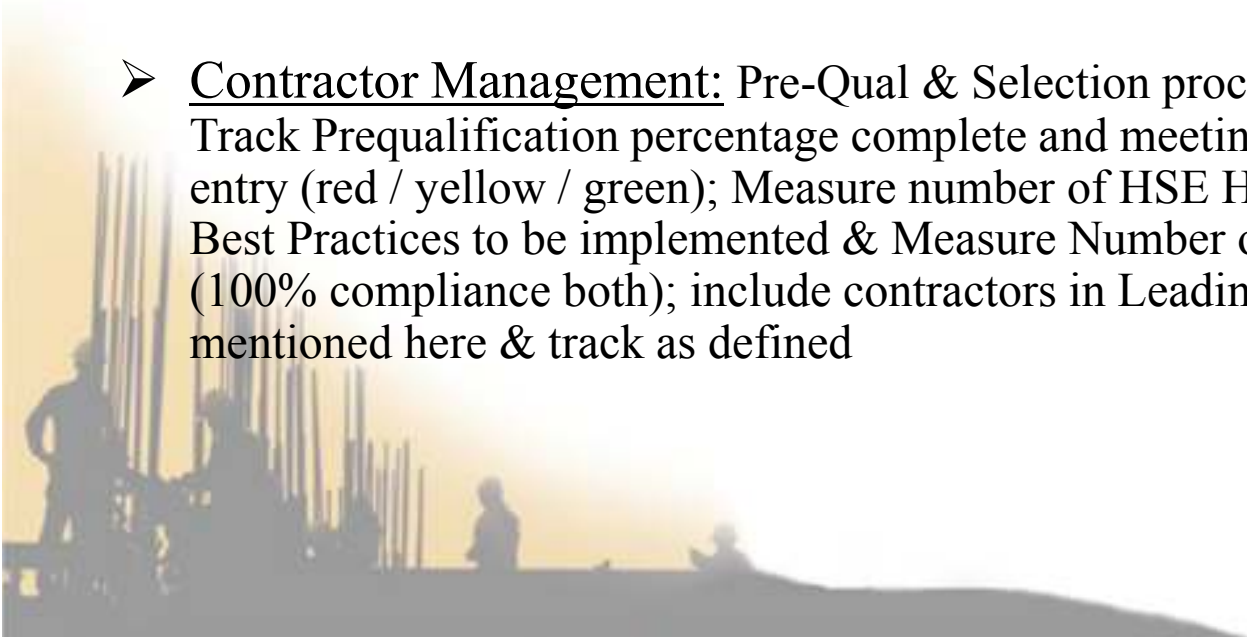
- Management / Supervision Visibility & Active Participation: (e.g. Snr. Management orientation introductions; management / supervision inspections; attendance at FLHA's / Weekly HSE ("Toolbox") Meetings; schedule work area inspections; etc. Measure actual attendance in matrix format, by individual name)
- HSE & Line Management Team Focus Audits and / or Inspections: (e.g. scheduled inspections or focus audits based on project experience – cranes, excavations, work permits, etc. Measure actual completed inspections by individual name carried out per week in matrix format)
- Behaviour Based Safety Initiatives (Workers – Behaviour Based Observations: "BBO" / "BBS" / "BEST" / "PBS" / etc): program in place and working: Ensure program is well established, management support is in place, training is in place, owned by workers, etc. Measure general implementation at first, e.g. number of participants, number of trained persons (workers & management), workers allocated time, management participation in joint meetings only, etc.)



HSE Indicators – Leading

(continued)

- Training: Compliance to critical training requirements, Number of critical activity training (AWP, Fall Protection, Work Permits, Excavation, Work Face Planning; etc.). Measure actual completed training in matrix format by individual name carried out per week – relative to workforce
- Track Outstanding Action Items: Measure actual incomplete action items, Investigations & Inspections / Audits, by line management individual name. Report on % complete & number outstanding (Weekly and / or monthly)
- Contractor Management: Pre-Qual & Selection process mandatory & tracked. Track Prequalification percentage complete and meeting company standard for entry (red / yellow / green); Measure number of HSE Kick-off Meetings - cover Best Practices to be implemented & Measure Number of Mobilization Audits (100% compliance both); include contractors in Leading Indicator metrics mentioned here & track as defined





HSE Indicators – Leading

(continued)

- Pre-Screening of employees (A&D) is taking place: Mandatory and rigorously tracked & documented for all types (Pre-access, Post Incident, “For Cause”, etc. Training of Supervision tracked. Measure pre-access compliance. Strive towards implementing the Rapid Site Access Program (RSAP) and measuring its compliance. Some Owners are striving towards measures to reduce non-occupational occurrences re: medical screening and this initiative will need to be measured as a leading indicator
- Supervisor Safety Activities Clearly defined & Evaluated At Regular (Defined) Intervals: Measure actual participation in defined activities (min 80% compliance); measure incomplete action items from such activities e.g. Investigations & Inspections / Audits ... by line management individual name % complete & outstanding. Follow COAA best practice in this respect. Screen supervisors to establish and address gaps. Provide **Soft skill training** similar to HSE Leadership Training provided by some Owners in the Oil Sands. Measure type of training and number (of people) completed vs. number outstanding



HSE Indicators – Leading

(continued)

- Hazard Identification (ID) / Analysis Process in place prior to start of project : Enforce path of construction hazard analysis, overall project / activity Hazard Ids, Hazard Registers, etc. Measure number completed and / or closure of open action items
- Field Level Hazard Assessment (FLHA) Prior to Start of Work and/or When Conditions Change: Mandatory and rigorously tracked for attendance by management / supervision. Formal process to evaluate by line & HSE management / supervision. Formal process to train and ensure continuous feedback & improvement. FLHA's should also be revisited at reasonable intervals. Tool to measure attendance & trends
- Employee Perception Surveys: (e.g. scheduled perception surveys based on project stage or dynamic. Measure actual completed surveys, outcomes from these surveys documented, analyzed & closed out ... Including any action items Establish videos, evaluation checklists, rosters, etc. Measure number completed and / or closure of open action items



HSE Indicators – Leading

(continued)

- Near Miss Reporting / Near Hit: Number completed & reviewed / closed out / trended. Process to analyze, trend, develop action & close out actions
- Communication Forums: Frequency of Weekly HSE (“Toolbox”) Meetings – formal, consistent message, set day & time across project & worker sign off - Measure actual returned sign off divided by attendance sheets based on project manpower e.g. 1x Foreman per 10-12 workers
- Compliance: Construction Absolutes / Life Saving Rules: Establish procedure for investigation, committee, etc. Measure number completed and / or closure of open action items. Ensure by tracking mechanism that all have read and provided commitment to comply



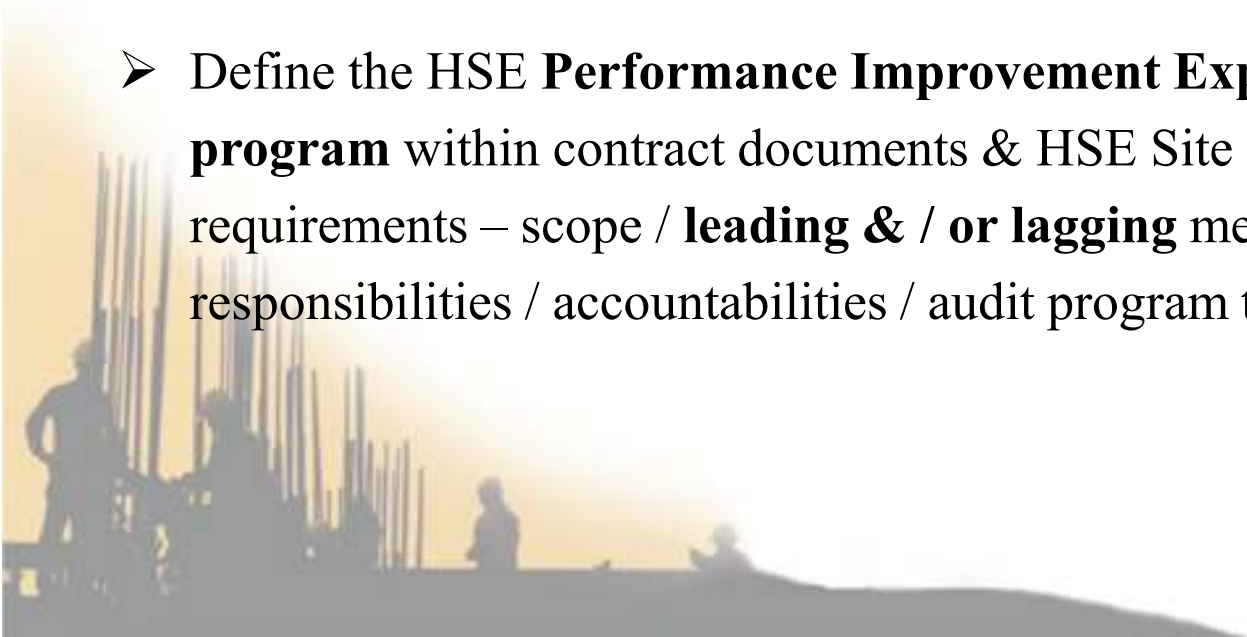
HSE Indicators – Lagging

- Fatalities: Self Explanatory - measure actual number(s)
- LTI's: Part of TRIC but measured separately. Measured in frequencies based on 200 000 hour base – common across industry. Most Owners measure at 1 000 000 hour base
- Total Recordable Injuries Frequency (TRIF): Medical Treatment Cases (MTC's); Restricted Workday Cases (RWC's); & Lost Time Injury Incidents (LTI's). Measured in frequencies based on 200 000 hour base – common across industry
- Total Injury Frequency (TIF): First Aids, MTCs, RWCs and LTIs measured in a frequency based upon 200 000 hours. Note: This lagging indicator is primarily used by organizations that have their reporting structure, culture and performance at a level considered to be “best in class” and also have several leading indicator practices in place and working well



Responsibilities - Owner

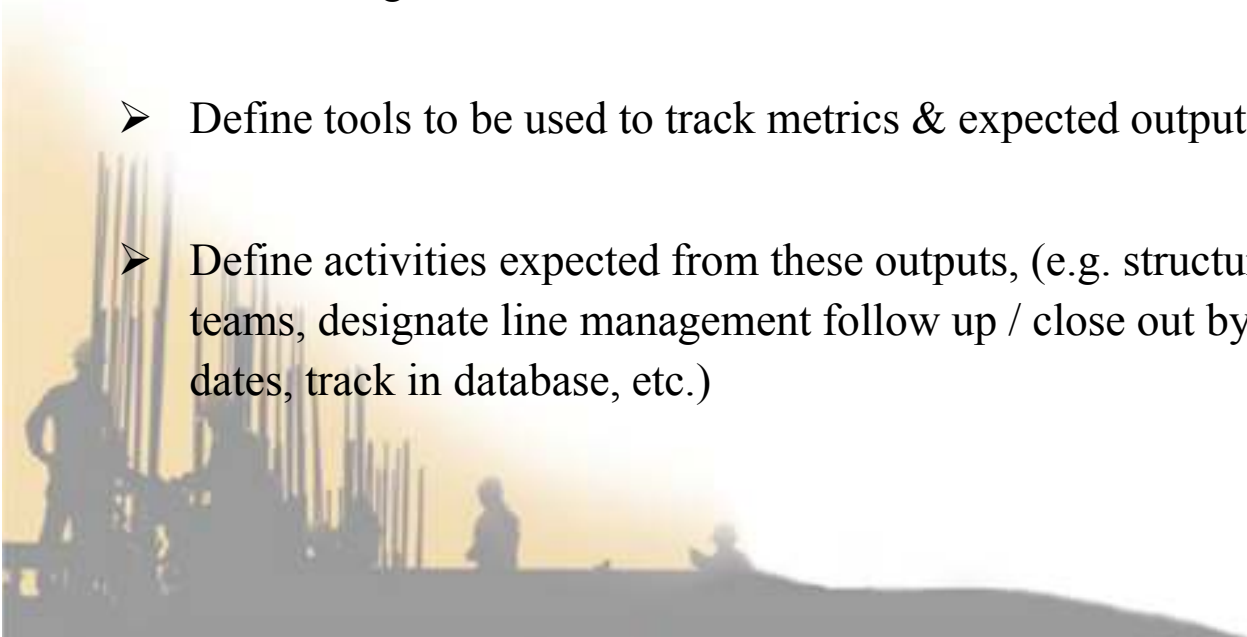
- Accountable to establish HSE Performance targets as part of yearly HSE plans (**Plan**); communicate and establish programs or initiatives to meet or exceed those targets (**Do**); have systems and practices in place to monitor and check performance (**Check**) and upon reviewing outcomes revise or realign activities and establish new targets (**Act**)
- Define the HSE **Performance Improvement Expectations and / or program** within contract documents & HSE Site Specific minimum requirements – scope / **leading & / or lagging** metrics to be measured / responsibilities / accountabilities / audit program to verify compliance, etc.





Responsibilities - Owner

- Define methods, scope and accountabilities – all stakeholders
- Include Leading Indicator questions in pre-qualification questionnaires in order to establish this mindset
- Discuss performance improvement details in contract Kick-Off, Monitoring and Close out meetings.
- Define tools to be used to track metrics & expected outputs
- Define activities expected from these outputs, (e.g. structured reviews by management teams, designate line management follow up / close out by name with expected close out dates, track in database, etc.)





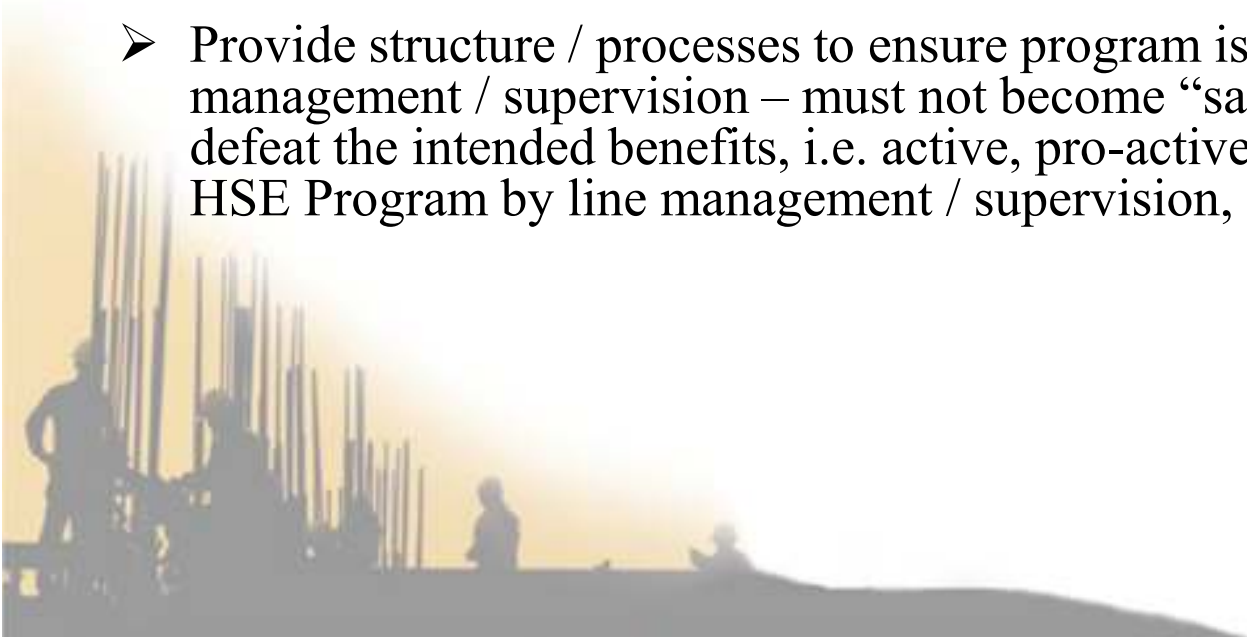
Responsibilities - Contractor

- Communicate contract requirements (i.e. scope / expectations) to all contractor employees and sub-contractor employees
- Put agreed tools in place to track / trend / report out or comply with requirements.
- Have processes in place to manage gaps in a structured, transparent manner with active participation by line management / supervision
- Embed “Leading & Lagging Indicator” awareness in management / supervision training and provide feedback loops to all stakeholders including workers
- Set clear expectations and Key Performance Indicators (KPI’s) for workers and line management to participate in performance improvement programs and have methods or processes to monitor such participation



Responsibilities – HSE Professionals

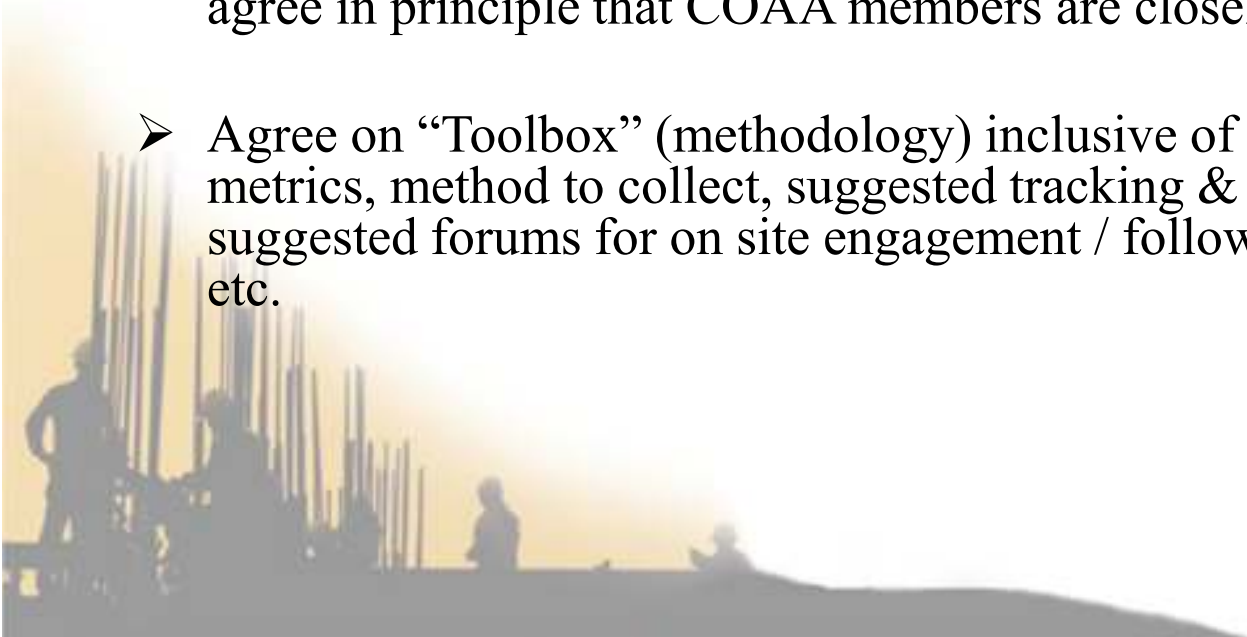
- Establish appropriate tools to be used to track Leading and Lagging Indicators
- Ensure quality administration of HSE databases is used for tracking / trending / reporting of HSE Performance data – Exposure Hours, Leading Indicators, Lagging Indicators, etc.
- Provide structure / processes to ensure program is owned by line management / supervision – must not become “safety's job” as this will defeat the intended benefits, i.e. active, pro-active, visible ownership of the HSE Program by line management / supervision, etc.





Responsibilities – Industry

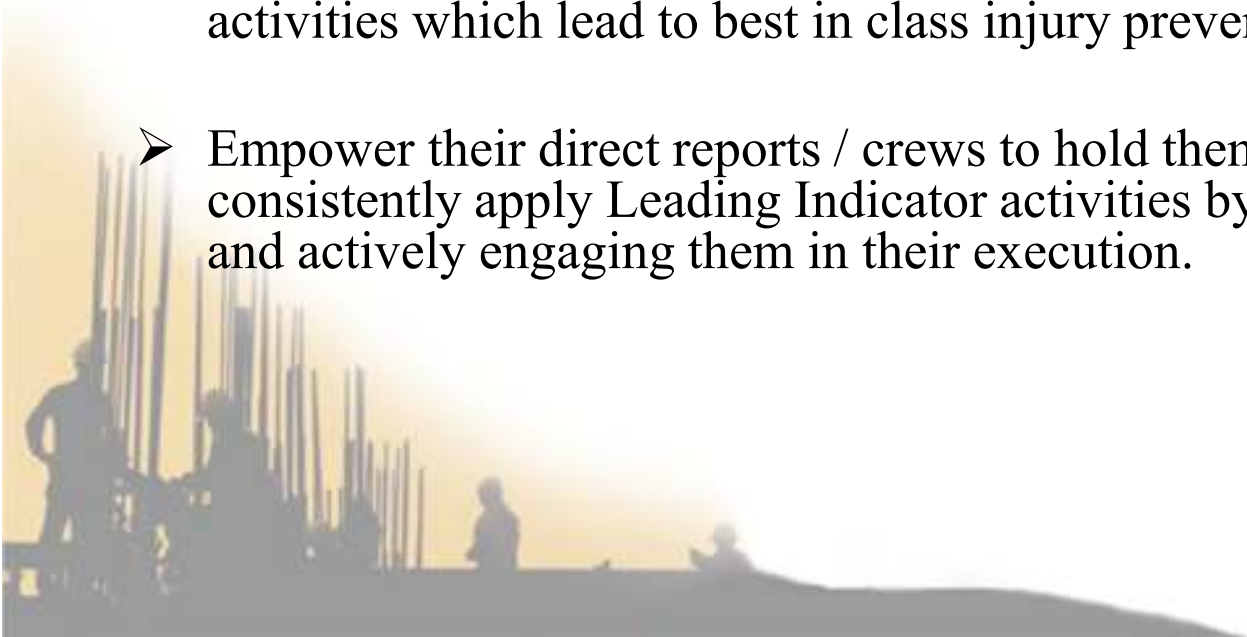
- Align and agree on the power of measuring, actively tracking and reporting key Leading Indicators – focus on ones that make a difference & understand that these are aimed at ensuring compliance with key industry Best Practices and Lessons Learned out of historic incidents. Lagging Indicators already well established
- Not focus on splitting hairs on Recordability (Lagging Indicator) issues – agree in principle that COAA members are closely aligned in definitions
- Agree on “Toolbox” (methodology) inclusive of key Leading Indicator metrics, method to collect, suggested tracking & measuring tools, suggested forums for on site engagement / follow up / report out / trending, etc.





Responsibilities – Line Management / Supervision

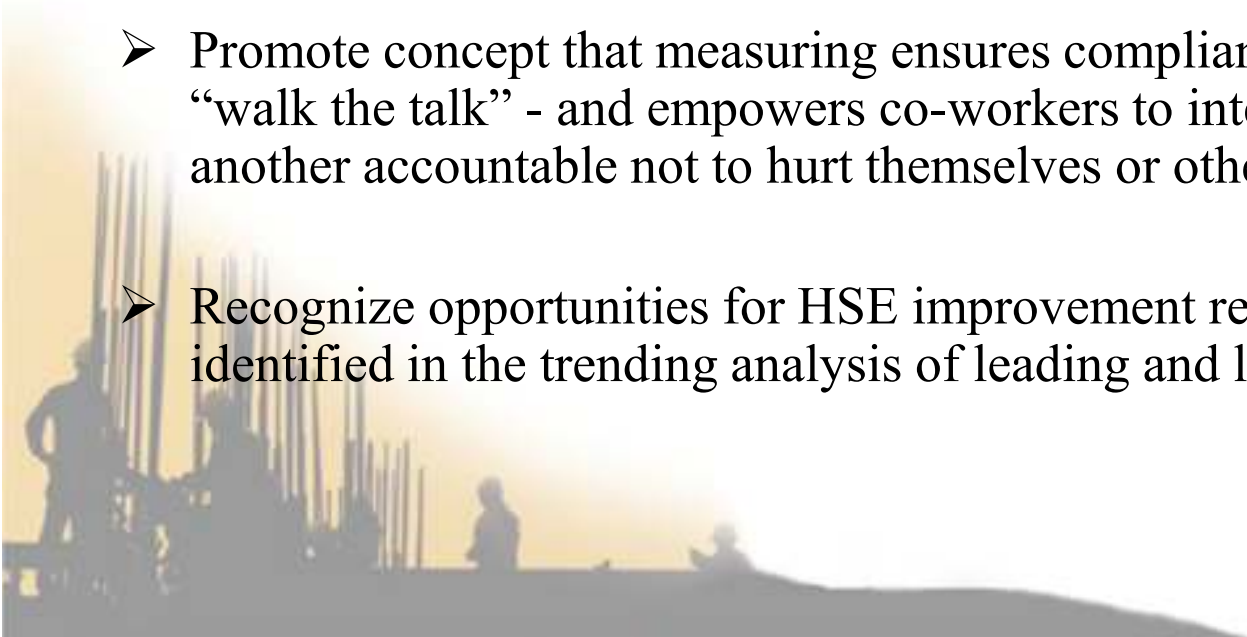
- Understand their role and the importance of all performance measures.
- Actively participate in program as defined by project management.
- Step change in behaviour related to focusing on best in class application of Leading Indicators (i.e. actively & pro-actively embrace the value of key activities which lead to best in class injury prevention.
- Empower their direct reports / crews to hold them accountable to consistently apply Leading Indicator activities by open communication and actively engaging them in their execution.





Education and Training – Orientation

- Ensure communication of Leading Indicators is covered in general site and company specific orientations – awareness of what these are and how they benefit each project employee (e.g. around hazard analysis / awareness; enhanced communication; interactive, visible management, etc)
- Include in Management / Supervision Training Courses
- Promote concept that measuring ensures compliance by management - “walk the talk” - and empowers co-workers to intervene and hold one another accountable not to hurt themselves or others
- Recognize opportunities for HSE improvement resulting from learning’s identified in the trending analysis of leading and lagging indicators





Implementation

- Owners shall contractually or otherwise set the expectations for this best practice to be applied on their facilities and/ or projects.
- Include Leading Indicator activities in behavioral based safety observations, formal and informal worksite inspections and Internal audits (Owner and Contractors).
- Senior construction management of the respective companies shall ensure implementation of this Standard within their areas of accountability
- HSE teams (Owner / EPCM's / sub tier contractors) shall ensure that they establish the procedure and associated tracking mechanisms in conjunction with their management teams



Auditing & Ongoing Program Review

- Include Leading Indicator activities in behavioral based safety observations, formal and informal worksite inspections and Internal audits (Owner and Contractors).

- Monitoring (to cover Leading and/or Lagging targets):
 - Weekly contract progress meetings
 - Performance should be measured at frequencies not exceeding quarterly
 - As part of Close out activities and performance review.

- “Test for Understanding” in the field via questioning, Observing and quarterly Perception Surveys.



Summary

- Identify your areas for improvement
 - Engage stakeholders and decision makers
- Establish stretch but attainable targets
 - Lagging and Leading
- Develop strategies or tactics
- Implement plan
 - Communicate expectations
 - Roles and Responsibilities
- Monitor progress
- Correct if required
- Celebrate Success
- Begin again!



Supporting Best Practices

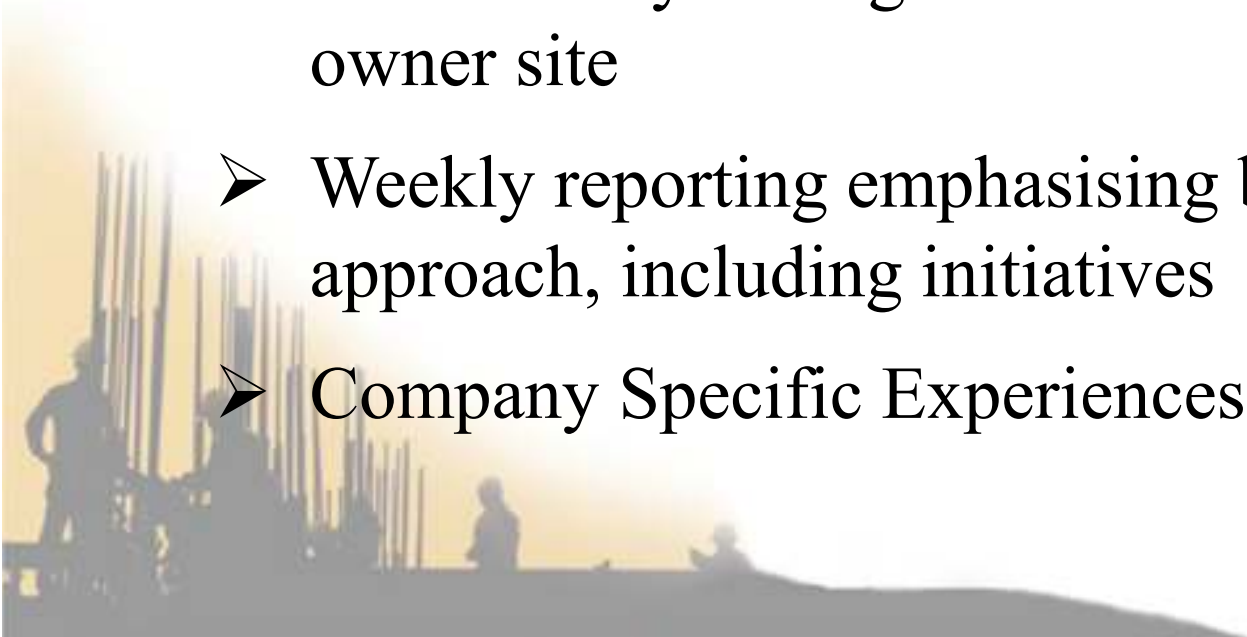
- Owner's Guide to Contractor Health and Safety
- Behavior Based Safety
- Field Level Hazard Assessment
- Workers at Risk – Mentoring
- Contractor EH&S Management
- Leading Indicators





Supporting Materials

- Examples from COAA members as follows:
 - Summary sheet, which reports leading & lagging indicator.
 - Joint weekly management walk-about from an owner site
 - Weekly reporting emphasising balanced approach, including initiatives
 - Company Specific Experiences





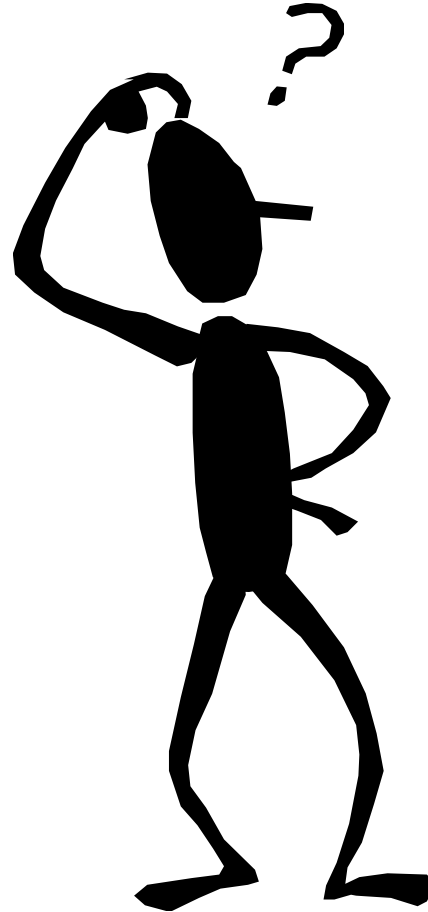
Evaluation Tools, Forms and Attachments

- To be developed and posted on COAA Website.
- Project team would appreciate any feedback or tools
- Information to submit examples will be found on the COAA Website.





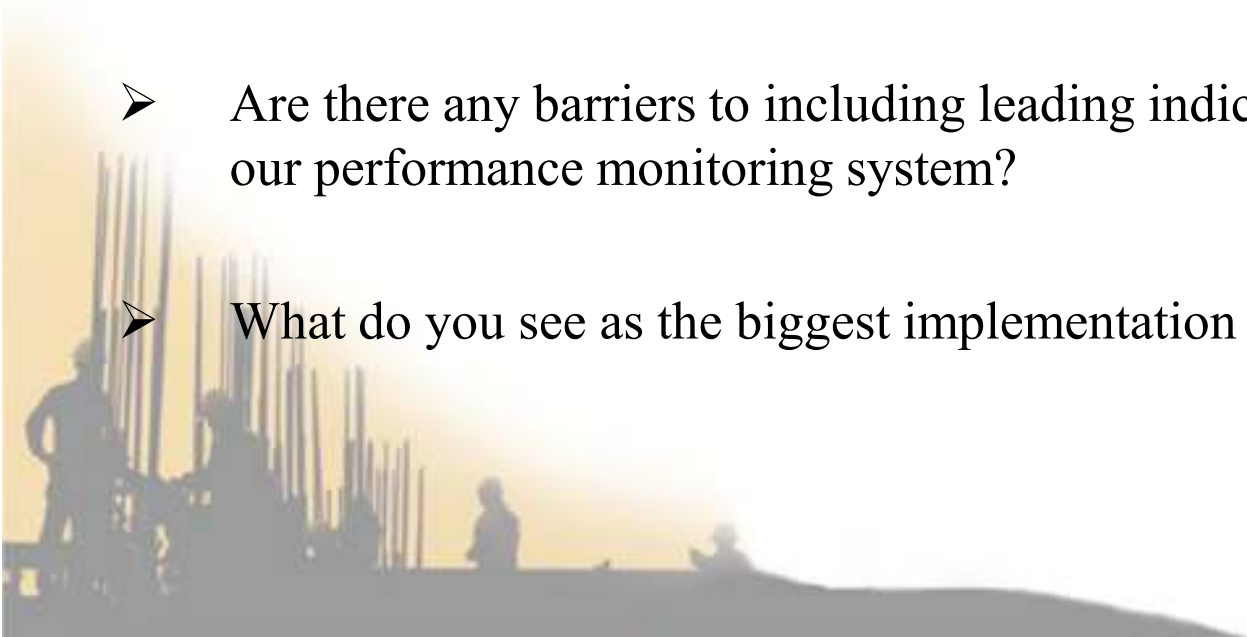
Discussion / Questions





Questions

- How many of you use a balance of leading and lagging indicators/measures?
- What other indicators/measures should we include?
- What do you believe to be the most powerful indicator/measure(s)?
- Are there any barriers to including leading indicator/measure(s) as part of our performance monitoring system?
- What do you see as the biggest implementation challenge?





Contracts Workshop

Best Practices Conference XIX
Contract Promotions Workshop

**Heavy Industrial Contracting:
Philosophies, Risk, and Application**



Contracts Workshop

Introductions

Workshop Presenters:

Dan Mowat, MBA-PM, PMP

Project Business Manager, AMEC Oil Sands, Natural Resources

W.J. (Bill) Kenny, Q.C.

Partner, Miller Thomson LLP



Agenda

1. History of the Contracts Committee
2. Introduction to COAA Contract Forms
3. Practical look at COAA Contract Terms
4. Wrap-Up





COAA & Best Practices

About COAA

COAA is an association of Owner companies working together to achieve construction excellence in the heavy industrial sector in Alberta.

COAA provides leadership in the drive towards safe, effective and productive project execution.



COAA & Best Practices

About COAA

Board comprised of senior representatives from Owner companies

Best Practices Committee - creation and promotion of best practices for heavy industrial construction

Executive Director and COAA Office Staff

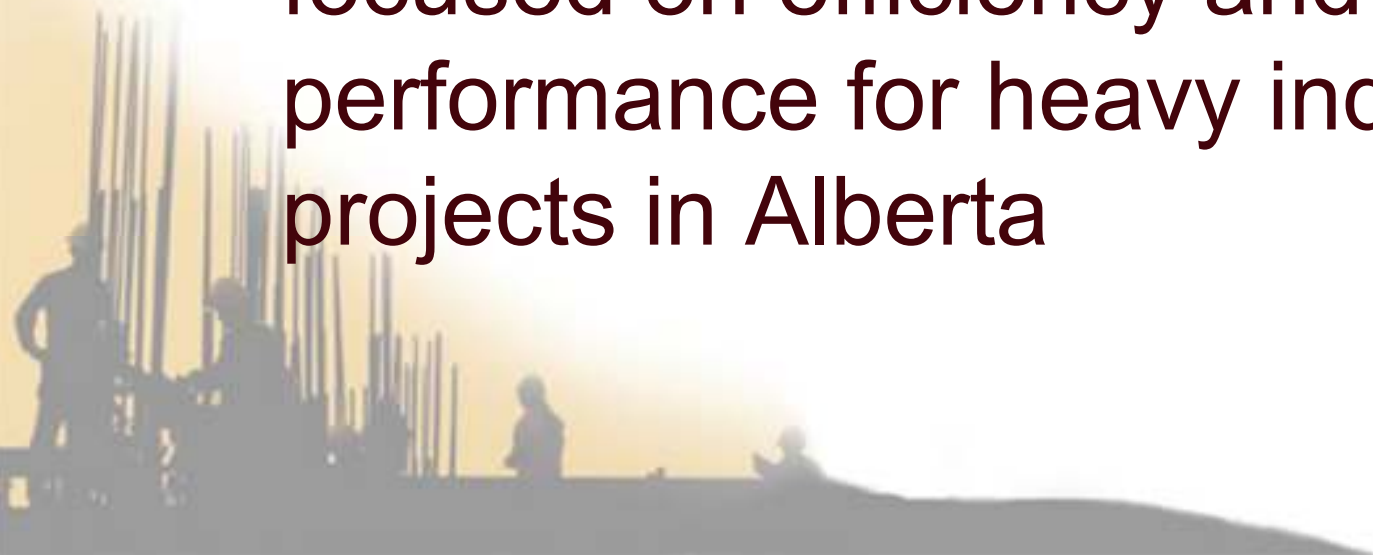
Best Practices Committees

Best Practices Committees:

- Safety
- Workforce Development
- Productivity
- Contracts
- promotion through workshops, seminars, COAA Best Practices Conference, and training programs

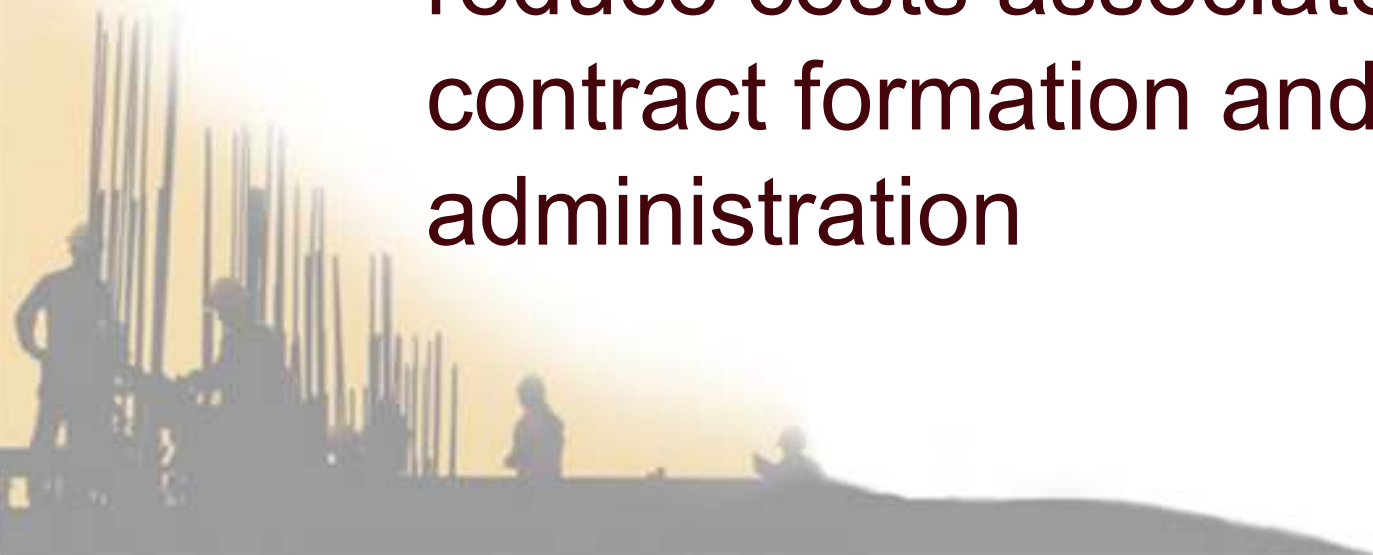
Contracts Committee

- a large, active committee of volunteers
- representation from the industry stakeholders
- Purpose: develop best practices focused on efficiency and high performance for heavy industrial projects in Alberta



Contracts Committee

- Goal: to provide tools to assist contracting parties that:
 - Provide clarity on obligations and risks
 - reduce costs associated with contract formation and administration



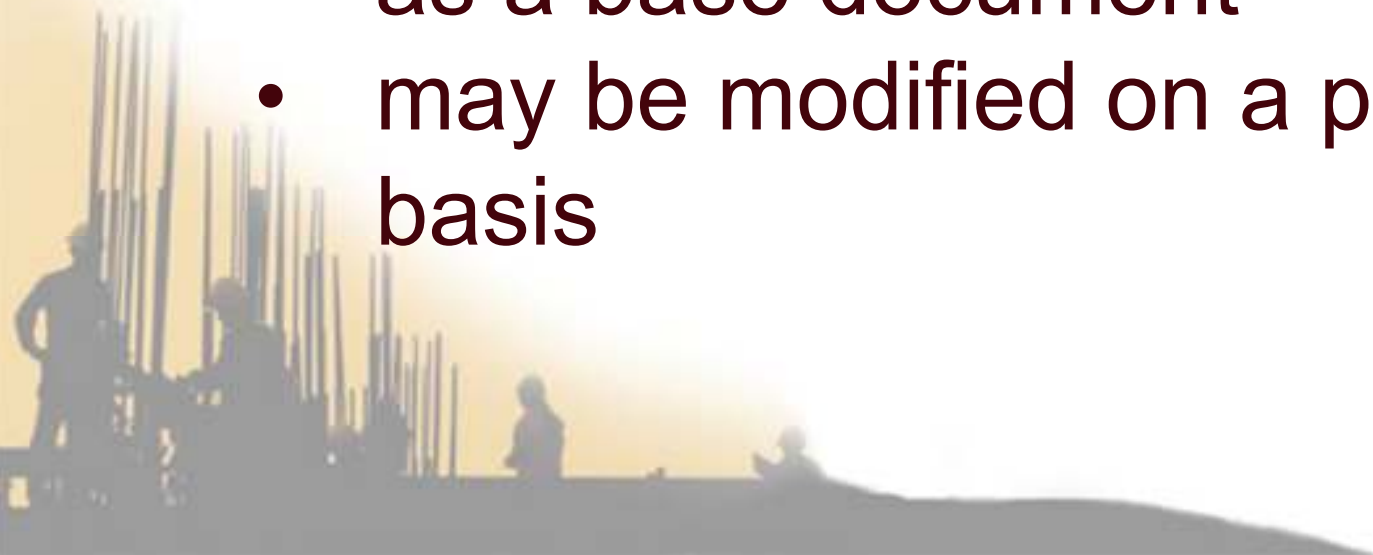
Overview of Contract Forms

- ***Stipulated Price Contract (2003)***
- ***EPC Contract (2005)***
- ***EPCM Contract (2008)***

- ***Best Practices for the industry***
- ***Philosophy Documents***
- ***Available at www.coaa.ab.ca***

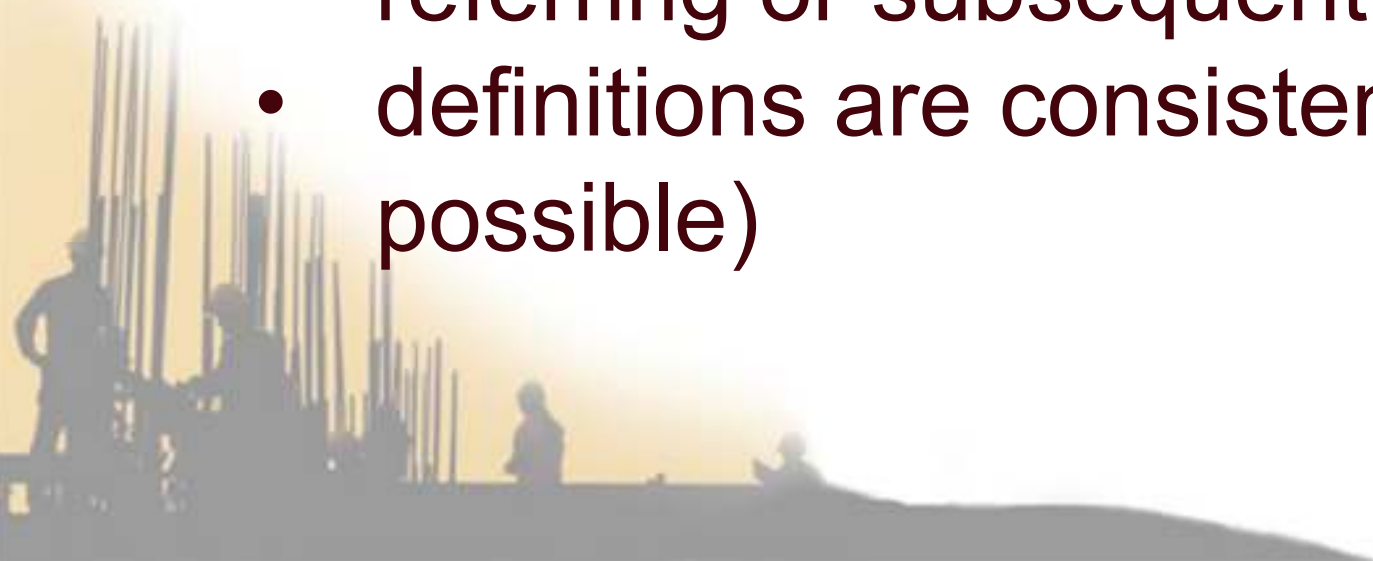
Overview of Contract Forms

- Free, and free of copyright
- Goal is to provide *flexibility*
- Use of COAA documents is encouraged
 - as a base document
 - may be modified on a project-specific basis



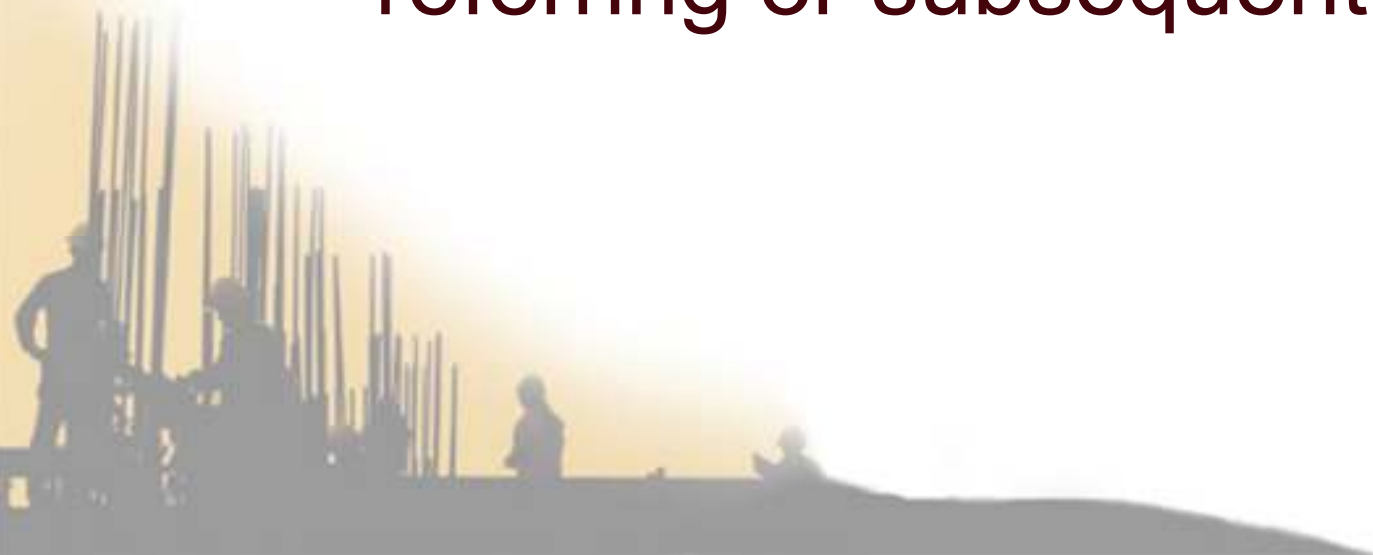
Overview of Contract Forms

- make changes as supplementary conditions (e.g. *Appendices & Forms*)
- take care when editing specific clauses to retain the intent of referring or subsequent clauses
- definitions are consistent (where possible)



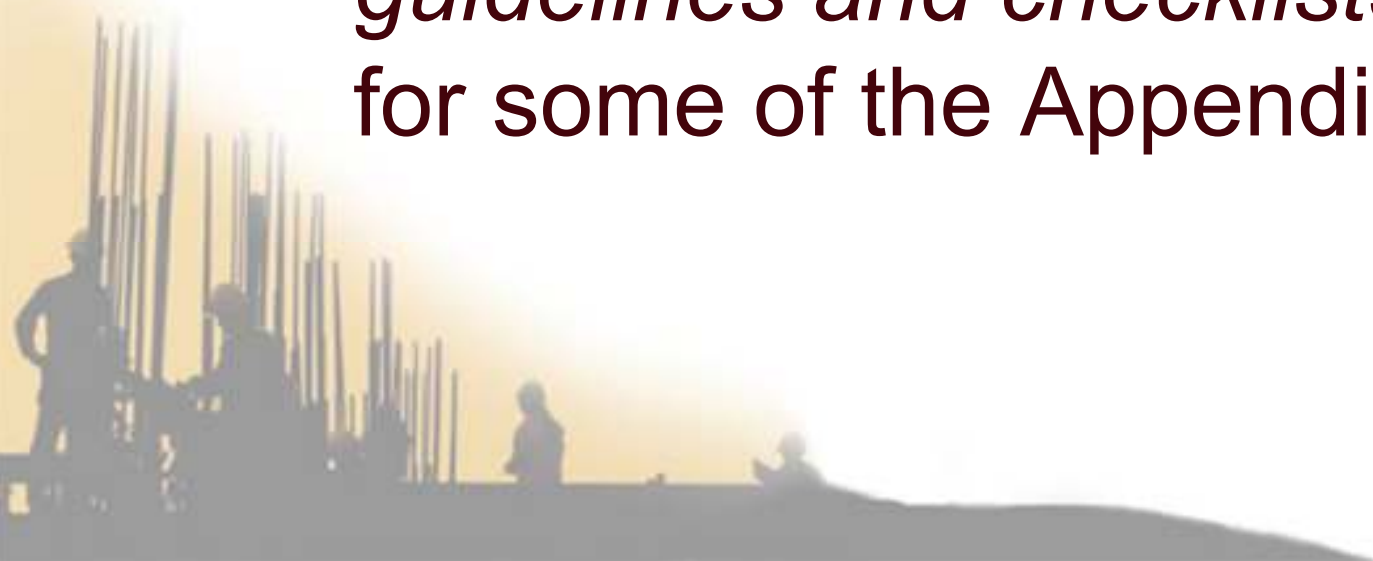
Overview of Contract Forms

- ‘blanks’ (e.g. insurance) need to reflect project requirements
- take care when editing specific clauses to retain the intent of referring or subsequent clauses



Overview of Contract Forms

- *philosophy documents* provide background and context
- review *philosophy documents* in conjunction with the application
- *guidelines and checklists* are helpful for some of the Appendices





**PRESENTER:
W.J. KENNY**



1. Three forms of Contract to be considered

- Stipulated Price Contract
- Engineering, Procurement and Construction Contract (EPC)
- Engineering, Procurement and Construction Management Contract

2. These are forms of Contract that are intended for industrial projects
- There is no “Consultant” role
 - There is no “Payment Certifier”
 - The Owner is in control of the Project, and assumed to have the expertise and management capability to execute the Project
 - The Contractor is likewise assumed to have the skill and resources necessary to execute the work

3. The Stipulated Price Contract includes:
- Bid Conditions
 - General Conditions
 - Schedule “A” Scope of Work
 - Schedule “B” Payment for work
 - Schedule “C” Release and Certificate of Final Payment
 - Schedule “F” Key Personnel, Confidentiality, Proprietary Information and Consent Agreement

- #### 4. What you will not find in Contract:
- The Contractor's Proposal
 - Separate Articles of Agreement
 - Exhibits and Appendices
 - Supplementary General Conditions although these are contemplated

5. Assumptions:

- The work is an industrial project
- The owner has completed the design
- The owner will provide the site
- The owner has arranged for timely delivery of owner supplied items

- The Contractor is experienced in executing this type of industrial project and has the resources and supervisory personnel to do so
- The Contractor is familiar with local conditions, including the local labour market, and can staff the Project with adequate skilled labour

6. The Bid Conditions

- Contemplates exceptions
- Warrants that the Contractor has satisfied itself of all conditions affecting the work, particularly labour
- invites alternatives
- contemplates a clarification meeting
- reserves the right to award to anyone, not necessarily the low bidder, but will review for commercial and technical merit

7. The General Conditions

GC 1-Definitions

GC 1.1.37 Work

Work means all labour, supervision, administration, materials, transportation, supplies, tools, equipment, temporary facilities, storage facilities, and such other work and materials, necessary to be performed or supplied for the work required by the *Contract Documents* including the

GC 1.1.37 – con't

work described in Schedule "A" - Scope of Work, and including any work which is not expressly described in the *Contract* but which is nevertheless necessary for the proper execution of the work required by the *Contract Documents*;

GC 6-LABOUR

6.1 The *Contractor* shall provide a sufficient number of qualified personnel to enable timely and proper execution and completion of the *Work*. All such personnel shall be competent, literate in English and qualified by education, training, experience and in all other respects capable of carrying out the tasks to which each is assigned.

GC 8 – Change mechanism

- Owner issues contemplated Change Notice to Contractor
- Contractor provides Change Quotation
- Owner accepts and issues Change Order, or issues Change Directive
- Contractor may request change through a Change Quotation
- Dispute on entitlement resolved under dispute resolution mechanism

GC 8 – Change mechanism – con't

- all changes to the Contract must be made by change Order or Directive
- all impact costs or costs of acceleration are to be included in the Change Quotation
- materially different subsurface or actual physical conditions merit a Change Order

GC 9 – Completion & Acceptance

- Owner may take partial completed work
- Functional Completion can be for the entire Work or a Component system
- Final Completion notice after all Work completed and all known deficiencies corrected.

GC 18-Force Majeure

- Event of Force Majeure defined 1.1.14
- *Event of Force Majeure* means any occurrence, other than the financial capability of a party or an event constituting a delay under GC 19, which is beyond the control and without the fault or negligence of the party relying on such occurrence, and which by the exercise of

reasonable diligence that party could not at the time of bidding have reasonably contemplated happening and is unable to prevent or provide against;

- If Owner does not agree, revert to change mechanism
- time extension is the remedy for Event of Force Majeure

GC 20 – Suspension Allowed to Owner

- payment of direct costs
- no payment for damages or loss of profit

GC 21 – Termination

- for convenience available to Owner, for all or a portion

GC 25 – Warranties

- from Functional Completion
- that the Work meets the requirement of the Contract Documents
- come back warranty for specified time
- applies to re-performed work



GC 26 – Indemnities

GC 26.4 Limitation on consequential damages

26.4 Notwithstanding anything else in this *Contract*, the *Contractor*, its *Subcontractors*, *Suppliers*, and their respective officers, directors, employees, consultants and agents shall not be liable to the *Owner*, or anyone claiming through or under it, whether by way of indemnity or by reason of breach

of contract or in tort, including liability for negligence and breach of statutory duty, or on any other legal or equitable basis, for:

26.4.1 special or consequential loss or damage;

26.4.2 loss of use, whether complete or partial, of the *Work* or existing facilities of the *Owner* or third parties;

26.4.3 loss of product;

26.4.4 loss of revenue, overhead and profit; or
26.4.5 loss of any contract that may be
suffered by the *Owner*,
except to the extent of amounts recoverable
under a policy or policies of insurance
required to be maintained by the *Contractor*,
or provided by the *Owner*, pursuant to the
provisions of this *Contract*, provided

however that in the event of the failure by the *Contractor* to complete the *Work* by the *Contract Time* the liability of the *Contractor* under this GC 26.4 shall be limited only to the greater of the insurance recoverable and \$ _____.

Schedule A – Scope of Work

- Describe Scope of Work
- Contractor's General Responsibilities
- Hours of Work
- Milestone Dates
- Work Schedule

Schedule A – Scope of Work – con't

- Drawings, Code and Standards
- Connecting Work
- QC Program
- Safety and Loss Management
- Document Submission Requirements

Progress Reporting and Other Reporting

- Meetings and Reports

Schedule C – Release and Certificate of Final Payment

- payment of Subcontractors and Suppliers
- release of all claims in respect of which notice in writing has not been given

Schedule E – Statutory Declaration

- payment of all Subcontractors and Suppliers
- complied with all of its lawful obligations

Schedule F – Key Personnel confidentiality undertaking

ENGINEERING, PROCUREMENT AND CONSTRUCTION CONTRACT (EPC)

1. To the extent possible, definitions and terms are the same as the Stipulated Price Contract.
2. In this Contract, there are 49 Articles and 9 Appendices, as follows:

- Appendix A – Owner’s Requirements
- Appendix B – Compensation
- Appendix C – Policy and Guidelines
- Appendix D – Warranty Items Procedure
- Appendix E – Liquidated Damages
- Appendix F – Incentive Fee
- Appendix G – Forms
- Appendix H – Dispute Resolution Procedure
- Appendix I – Key Personnel [**NTD: Use if not in *Execution Plan***]

3. Definitions:

Construction Work

1.1(s) *Engineering Services* means those services described in the *Owner's Requirements* and provided by the *Contractor* for the design, planning and engineering of the *Project*, but does not include *Construction Work* or *Procurement Services*;

1.1(rr) *Procurement Services* means the procurement of *Procured Goods* performed by the *Contractor*, which may be performed as agent of the *Owner*, or for the *Contractor* on its own account, as stipulated in the *Owner's Requirements*;

1.1(kk) *Owner's Requirements* means the description of the scope, standards, design criteria, *Performance Guarantees, Milestones* and the programme of work set out in Appendix A – Owner's Requirements, as amended by any *Changes*;

- 1.1(u) *Execution Plan* means the programme developed by the *Contractor* for the *Work* in accordance with Section 4.2 and which shall be updated from time to time as may be required by the *Owner* and which shall include, but not be limited to:

1.1(u) – cont'd

- the organisation to be established by the *Contractor* for carrying out the *Work*, including, but not limited to, the identities and curriculum vitae of *Key Personnel*, or if not yet identified, then the titles of the positions that will be held by *Key Personnel*;
- the sequences and methods for the performance of the *Work*; and
- a detailed schedule with dates for the completion of *Milestones*;

- 1.1(x) *Functional Completion* means that date when the *Work*, or a *System*:
- has passed the required *Performance Tests* that are stipulated in the *Owner's Requirements* to be performed before *Functional Completion*; and
 - is certified by the *Owner's Representative* pursuant to Section 19.4 as being complete or ready to be put into service, or being used for the purpose intended and a *Functional Completion Certificate* is issued;

8. Article 8 – Construction Work

8.2 Except for those materials, services and equipment to be provided by the *Owner* and described in Appendix A – *Owner’s Requirements*, the *Contractor* shall supply or cause to be supplied all services, equipment and materials required for the proper execution and completion of the *Construction Work*.

9. Article 9 – Commissioning

9.1 The duties of the *Owner* and of the *Contractor* in relation to *Commissioning before Functional Completion* and *Commissioning after Functional Completion*, together with the *Milestones* to be reached for commissioning, are as set out in the *Owner's Requirements*.

17. Warranty – begins on Functional Completion

18. Article 30 – Proprietary Information

- technology developed by Contractor is Contractor's unless resulting from Owner's Confidential Information

- 42.3 Notwithstanding any other provision of the *Contract*, the *Contractor's* total aggregate liability to the *Owner* shall be limited to \$ _____.
- **[NTD: Section 42.3 is to be used only where the parties choose not to include *Liquidated Damages* in the *Contract*. In addition, if Section 42.3 is to be incorporated, the Committee suggests that the parties negotiate whether the following indemnities obligations of the Contractor should**

be carved-out of the cap: Section 28.1 (intellectual property infringement); Section 39.1 (liens); Section 41.1 (third party claims); Section 45.3 (independent contract indemnity); obligations relating to workers' compensation premiums if the *Owner* is held accountable; and any taxes payable by the *Contractor* for which the *Owner* is held accountable.]

COAA EPCM CONTRACT

Where possible, definitions used in the COAA Stipulated Price Contract and EPC Contract have been incorporated in this EPCM Contract in an effort to use consistent terms. To accommodate a variety of projects, project-specific information is contained in the Appendices to the EPCM Contract.



The EPCM Contract is intended to serve as a starting point for negotiations and can be modified by the parties with respect to a specific project. It is preferred that changes be made to the EPCM Contract by way of supplementary conditions so that the COAA form remains as a precedent. However, care must be taken in the modification or editing of specific clauses without consideration of changing the intent of referring or subsequent clauses.

Risk in Allocation in EPCM Contracting

EPCM contracts require the EPCM Contractor to provide pre-construction to post-construction services. The services start at the front end with engineering, move to procurement and follow through with construction management, which will last to project closeout and sometimes through the construction warranty period.



The Committee recognized that, in some cases, the EPCM Contractor will provide fabrication as part of its scope. The actual construction work is provided by parties referred to as "Works Contractors". The EPCM Contractor would not provide direct-hire construction forces without the Owner's consent.

The EPCM model allows the Owner to be more involved in the design process and this relationship needs to be addressed between the Owner and the EPCM Contractor prior to project commencement. The Owner needs to be realistic as to what involvement to have and what resources are available to provide effective and timely input to the design process. The Owner's expectations and resources should be reflected in Appendix A - Owner's Requirements.

An EPCM Contractor is agent for the Owner both in relation to procurement and Construction Management

Works Contracts

As the EPCM Contractor will be the agent of the Owner, works contracts for the performance of the construction are entered into between the EPCM Contractor, as agent for the Owner, and the Works Contractor. Works Contractors may be recommended by the EPCM Contractor to the Owner, or may be selected by the Owner.

The works contracts can be let on any basis that the contracting plan determines is appropriate for the project (for example: stipulated price, unit price, cost reimbursable, guaranteed maximum price).



Contracts Workshop

Wrap-up

Contracts Seminars - Planning to run ½ day sessions again in Fall 2011 – what topics interest you?

Workshop Evaluation Form

Interested in joining the **Contracts Committee**?

Co-Chairs:

Jane Sidnell, Fraser Milner Casgrain LLP (403) 268-3119

Dan Mowat, AMEC Americas, Limited (403) 298-8054



Welcome

**Different Owners
and
Different Contractors!**

S p r e a d O u t ! ! ! ! !

THE SEQUEL!



ARE WE ALIGNED?

Best Practices Workshop



Agenda

- Introductions
- Recap from BP XVIII
 - Committee Scope and Objectives
- Your feedback from BP XVIII
- Progress This past year
 - Best Practice Guide
 - Process flow chart
 - Key prequalification criteria
- Group Exercises
- Open discussion, Q&A



Introductions

Owners



Contractors



Academia





Who We Are

Frank DeLuca



Jim Freiburger



Bill Somerville



Joe Varughese



Marcello Tarantini



Troy Ritcy





Who We Are

Wayne MacFarlane



Nicola Haig



Dr. Aminah Robinson Fayek



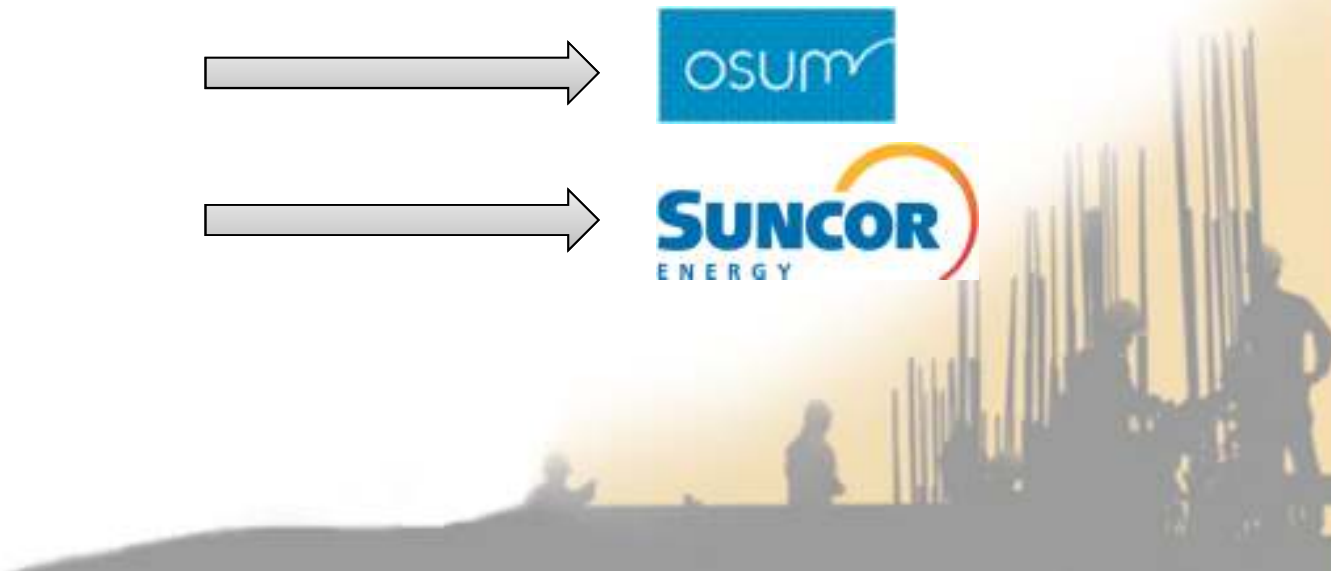
Bill VanVeelen



Hal Middlemiss



Ken Oben





Recap May 2010 Subcommittee Work Scope

- First principles approach to determine what the prequalification objectives are.
- Develop a documented Best Practices process.
- Review and leverage previous COAA work.
- Not the intent of the committee to generate detailed prequalification procedures or templates - it is understood that Owners have and will develop their own specific standards.



Prequalification Objectives

Everyone's goals – A safe project on schedule, on budget, complying to specified requirements

Need to choose and work with Contractors/Subcontractors that are competent and are capable of performing the work to Owner requirements

Need to implement a comprehensive, effective and efficient work process to select the right contractors

Our committee's Objective: To establish a Best Practice process that assists Owners and Contractors to complete contractor prequalification in a consistent, effective and efficient manner!



What We Suggested at BP XVIII

A Business Need to Improve an Inefficient, Ineffective Practice:

- Numerous inefficient, inconsistent, costly and resource intensive methodologies currently used to prequalify Contractors (inconsistent requirements, formats, etc.), causing much redundancy:

Contractor Resources and Time = \$ Cost to Owners

- Is the required information shared and evaluated between the contracting parties?
- What information is suited to be gathered by 3rd Party?
- Are current processes providing 'best practice' prequalification to meet Owner and Contractor objectives?

You Told Us We're On To Something!!

**What have we done this last year and
Where are we now....**





What You Told Us - BP XVIII Workshop Feedback

Are current industry prequalification processes efficient and cost effective?

	A- yes efficient and Cost Effective		B - No -inefficient and expensive		C - Uncertain	
	Votes	%	Votes	%	Votes	%
Owner	8	44%	34	23%	38	42%
Construction Contractor	9	50%	79	53%	21	23%
Labour Provider	0	0%	10	7%	3	3%
Designer/Engineer/Planner	1	6%	12	8%	13	14%
Other Consultant	0	0%	4	3%	6	7%
Material supplier	0	0%	2	1%	0	0%
Government	0	0%	0	0%	1	1%
Other	0	0%	9	6%	9	10%
Overall Total	18	100%	150	100%	91	100%
Overall Percentage	7%		58%		35%	

259



What You Told Us - BP XVIII Workshop Feedback

Who should be accountable for prequalification of subcontractors?

	Owner		Contractor		3rd Party Qualification Service provider		Not Applicable - Subcontractors should not be required to Prequalify	
	Votes	%	Votes	%	Votes	%	Votes	%
Owner	22	36%	53	29%	5	28%	0	0%
Construction Contractor	20	33%	79	43%	8	44%	2	100%
Labour Provider	5	8%	8	4%	1	6%	0	0%
Designer/Engineer/Planner	3	5%	18	10%	3	17%	0	0%
Other Consultant	6	10%	8	4%	0	0%	0	0%
Material supplier	0	0%	3	2%	0	0%	0	0%
Government	1	2%	1	1%	0	0%	0	0%
Other	4	7%	13	7%	1	6%	0	0%
Overall Total	61	100%	183	100%	18	100%	2	100%
Overall Percentage	23%		69%		7%		1%	

On the Roadmap to Implementation

2009-2011



2011



2012



FUTURE





Progress.....

- Committee reviewed and understood your feedback.
- Discussed and agreed on the scope of a “Best Practice” for Contractor Prequalification.
- Reviewed some third party Contractor / Vendor compliance management systems
- Ensured the objectives and outcome would not be in contradiction with each parties ISO compliance
- Considered the impact of key WCB information
- Consolidated and generated our recommended documents that detail the “Best Practice”.

Best Practices XIX workshop is the time to share our progress, work product generated and get a pulse check from you.



Key Concepts & Benefits

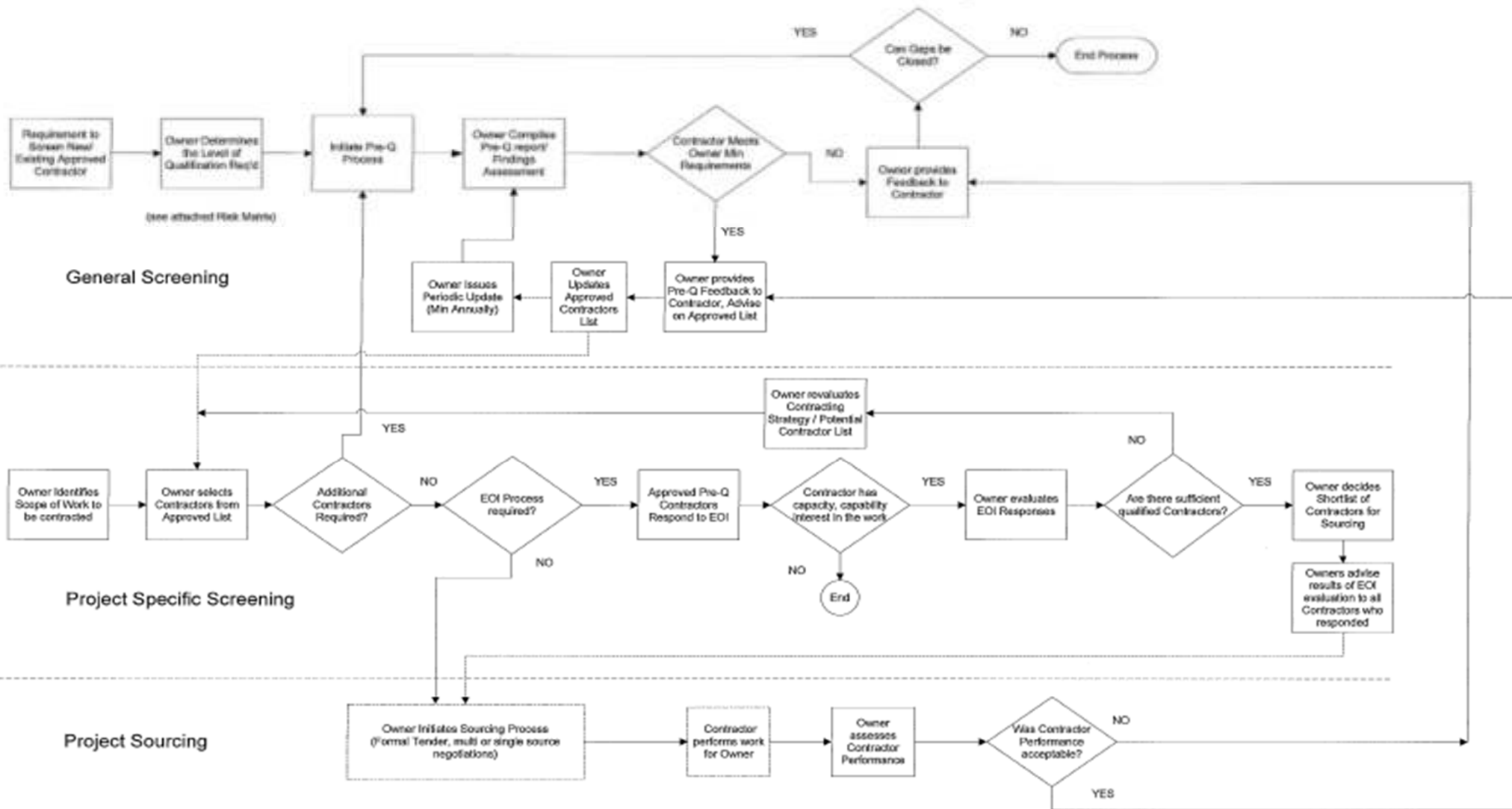
- Pre-qualification questions should be relevant to the maturity of project (i.e. staged)
- Be thorough / Do it right – but once per stage (single point contact)
- Let the correct person collate the information – contractors qualify their own sub-contractors and vendors
- Response analysis must be undertaken by suitably qualified personnel
- Follow the stages – where possible avoid last minute pre-qualification “to make up the number of bidders”!



Pre-qualification Best Practice Guide

- Three key stages defined:
 - General Screening
 - Project Specific Screening (EOI)
 - Project Sourcing (RFP)
- Key information to be gathered each stage.
- Key principles / success factors for Best Practice Contractor Prequalification.
- Work process flow diagram.
- Evaluation Methodology & criteria.

Group Exercise 1 “Process Map”





Group Exercise 2

Pre-Qualification Self Assessment: Current Reality?



NEXT YEAR

- Estimate Cost of PreQualification to Industry?
- Finalize Process Map & Issue Best Practice!
- Promote Use of Best Practice!
- Finalize Website!





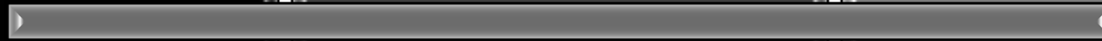
Q&A?



Discussion!



Comments?





Thanks!

Thank-you for your participation and suggestions!

Your input and involvement will assist the subcommittee to develop best practices in Contractor Prequalification, which will benefit both Owners and Contractors.



Please see Frank DeLuca at the end of the session.

www.coaa.ab.ca

WELCOME





Respect in the
Workplace



Committee Members

Rob Cleveland

**Christian Labour Association
of Canada**

Michelle Devlin

Creating People Power

Dale Hildebrandt

Ledcor Industries Ltd.

Roland LaBossiere

Suncor Inc.

Marla McCready (Co-chair)

Merit Contractors Association

Hardy Lange van Ravenswaay

**Progressive Contractors
Association of Canada**

Shandra Linder

Syncrude Canada Ltd.

Cailín Mills

**Alberta Employment and
Immigration**

Lindsay Osmond

Canonbie Contracting Ltd.

Lynne Palumbo (Co-chair)

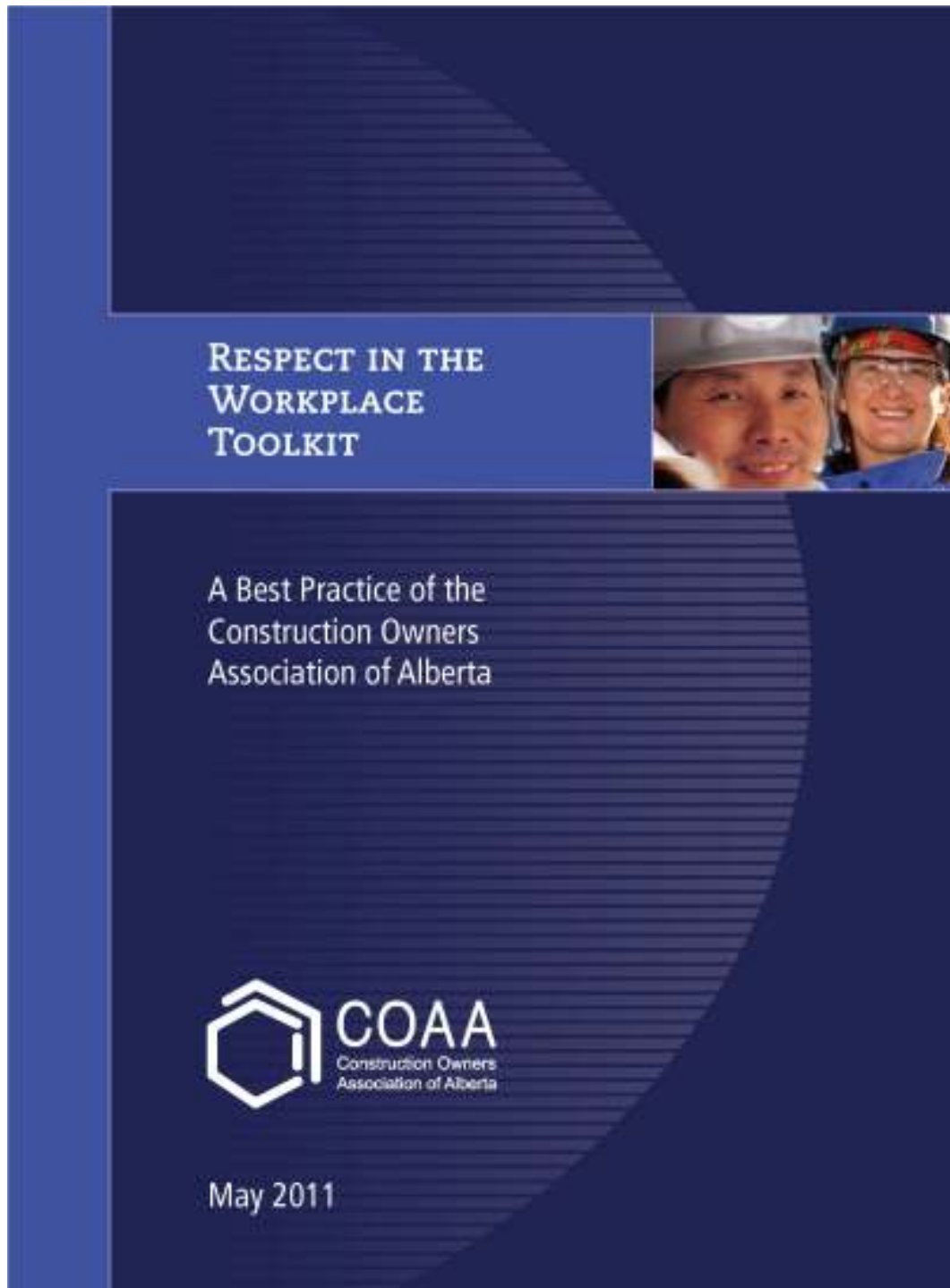
Construction Labour Relations

Angie Perras

Bird Construction Company

Cara Yu

KBR Canada



Respect in the Workplace Toolkit

A Best Practice of the
COAA

A collaborative initiative
developed by the

**COAA Respect in
the Workplace
Committee**



Respect in the
Workplace



Respect is defined as the willingness to show consideration for the rights or feelings of others; to treat them courteously, inclusively and safely



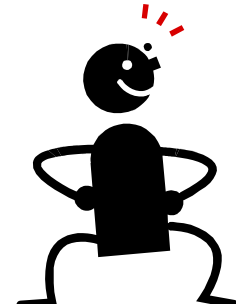
Respect in the
Workplace



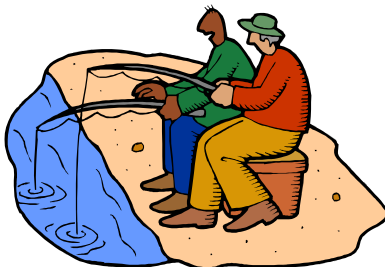
- **Endorsement & Acknowledgements**
- **Tab 1: Respect in the Workplace Guidelines**
- **Tab 2: What is a Respectful Workplace?**
- **Tab 3: Developing and Implementing an RITWP Policy**
- **Tab 4: Sample Policy**
- **Tab 5: Employer Guide**
- **Tab 6: Supervisor Guide**
- **Tab 7: Employee Guide**
- **Tab 8: Forms and Checklists**
- **Tab 9: References and Resources**



Violations of Respect



- **Unprofessional Conduct**
- **Harassment**
 - **Bullying**
 - **Cultural Insensitivity**
 - **Discrimination**
- **Workplace violence**





Respect in the Workplace



NEW: Unprofessional Conduct!

- When behaviours, responsibilities and actions fall below the required standard set by the industry or an organization
- These standards referred to as a code of conduct, may be implied or written
- Code of conduct usually focuses on ethical and socially responsible issues

Everyone is accountable for conducting themselves by word, action and gesture in a manner that is reflective of respectful behaviour.

NEW: Cultural Insensitivity!

- Behaviour that is directed towards an individual based on characteristics such as age or communication style that causes humiliation or frustration
- Culture is a code of behaviours, values, beliefs, traditions, customs, patterns of thinking and a way of life that people unconsciously learn



Respect in the
Workplace



TAB 8 - FORMS & CHECKLISTS

- ✓ **Checklist: Do You Have a Respectful Workplace?**
- ✓ **Checklist: How to Develop and Implement an RITWP Policy**
- ✓ **Checklist: Is Your RITWP Policy Enforceable?**
 - **Incident Statement Form**
 - **Employer Investigation Form**
 - **Investigator's Incident and Corrective Action Report**
 - **RITWP Hazard and Risk Worksite Assessment Form**
 - **Work Safe Alberta Employee Risk Assessment Questionnaire**
 - **COAA Field Level Risk Assessment Form**

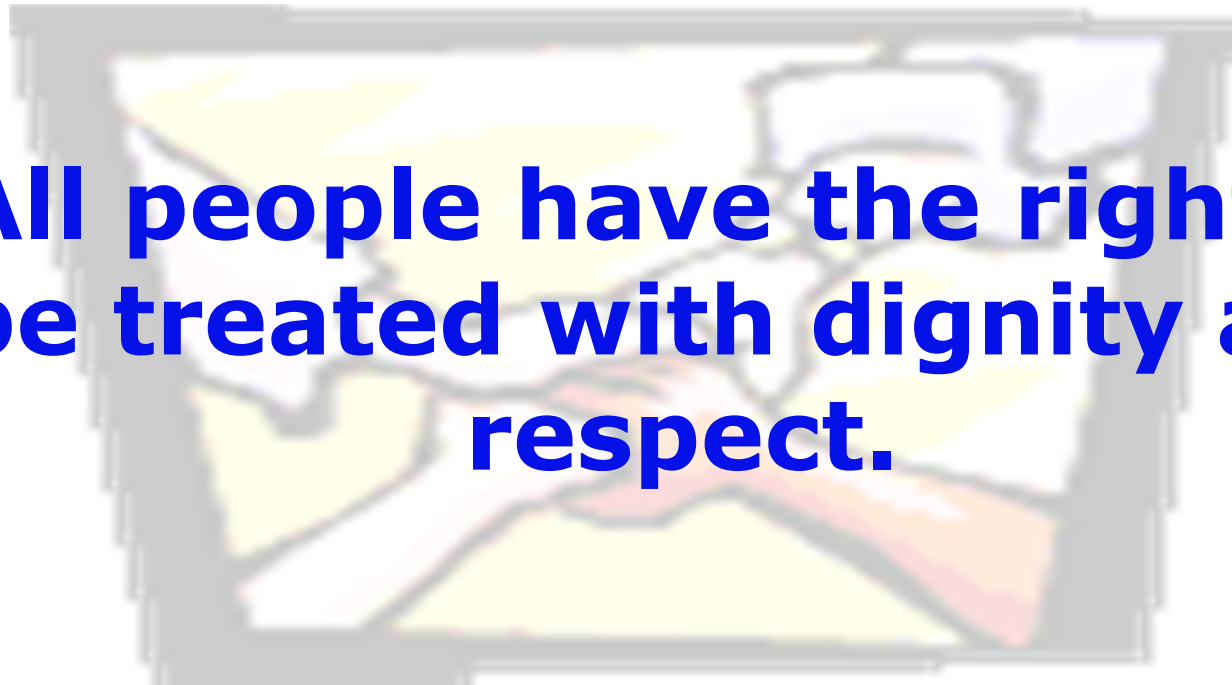


Respect in the
Workplace



“Overarching Value”

**All people have the right to
be treated with dignity and
respect.**





Respect in the
Workplace



Training Format

Awareness Workshop

Train the Trainer



Respect in the
Workplace



**Can Respect in the
Workplace be mandated ?**

Human Rights in the Workplace Workshop: A Respectful and Inclusive Workplace

**Construction Owners of Alberta
May 18, 2011**

Presenter: Sushila Samy, CHRP

Alberta Human Rights Act

- Is administered by the Alberta Human Rights Commission
- Is **primacy** legislation - takes precedence over other provincial laws
- Speaks to the rights and responsibilities of those in Alberta under provincial jurisdiction

Respectful and Inclusive

Employers:

- Continually strive to ensure full participation for all employees
- Value privacy and confidentiality
- Work with employees to accommodate them, when required
- Prevent discrimination and inappropriate conduct

The Act Covers Five Areas

- Publications, Notices and Signs
- Services/Accommodation
- Tenancy
- Employment and Employment Advertising
- Membership in Trade Unions, Employer's Associations

Act Covers 13 Protected Grounds

- Race
- Religious belief
- Colour
- Gender
- Physical Disability
- Mental Disability
- Marital Status
- Age
- Ancestry
- Place of Origin
- Family Status
- Source of Income
- Sexual Orientation

Prohibitions

- Retaliation against anyone who has made a complaint, given evidence or assisted any one else in making a complaint.
- Making a complaint with malicious intent that is frivolous and vexatious.

Employers' Responsibilities

Employers are responsible for:

- providing a safe and healthy work environment.
- preventing and dealing with harassment in the workplace.
- appropriate conduct in the workplace.

Employee Responsibilities

- To treat fellow employees in a manner consistent with the law
- To cooperate with the employer in accommodation requests
- To provide information when requesting an accommodation

Workplace Changes

- Increased immigration
- Increased participation of women
- Increased Aboriginal population
- Aging workforce
- New technologies
- Labour shortage
- Changing societal attitudes

Harassment

- Is unwelcome/uninvited conduct
- Includes verbal or physical contact, attention, demands, jokes or insults
- Interferes with work performance
- Creates an intimidating or hostile work environment

Harassment or Not?

- Sexual jokes are common in the workplace.
- An employee constantly pressures a co-worker for a date even though she has said she is not interested.
- A staff member is often ridiculed about his weight.
- A worker with a limp is often teased and mimicked
- Is bullying harassment?

Harassment

Harassing Activities:

- Displaying offensive images, photographs, cartoons, symbols
- Sending offensive e-mail messages
- Practical jokes and derogatory comments
- Racial slurs, belittling cultural or religious beliefs

Sexual Harassment

- Sexual contact or threat of sexual contact or coercion
- Continued/repeated abuse of a sexual nature
- Threat or insinuation

Source: Aggarwal, Sexual Harassment: A Guide for Understanding and Prevention

Set a Standard for the Workplace

Does the behaviour meet the **BAR** standard?

B = Businesslike (professional)

A = Acceptable in a work setting

R = Respectful of others' boundaries

Conclusion

“Women and men do not need *protection* from each other; they need *respect* for each other”.

Aggarwal, Arjun P. [Sexual Harassment: A Guide for Understanding and Prevention.](#)

Key Concepts in Accommodation

- Grounds of Discrimination
- Undue Hardship
- Bona Fide Occupational Requirements (BFOR)

Duty to accommodate refers to an employer's obligation to take appropriate steps to eliminate discrimination against employees and potential employees.

Accommodation is a way to balance the diverse needs of individuals and groups in our society. It may require a degree of inconvenience, disruption and expense

The Accommodation Discussion

- Includes a decision making process that is a collaborative one in which the employer and employee both have a share

Duty To Accommodate – Pre-Employment

- Interview
- Medical Assessments - must relate to the operation of the workplace and job duties of the employee
- Screening of job candidates

Medical Information

- Expected length of disability and absence
- Whether it is temporary or permanent absence
- Work restrictions to assist with accommodating employee

Requesting Relevant Medical Information

- Must be requested in non threatening manner
- Medical information should only be released to staff who need it for a specific purpose

Trick v. Federated Cooperatives (Alta. Q.B.)

Accommodating Needs of Pregnant Women

- Re-assignment of duties/location
- Flexible work schedule, breaks as necessary
- Alternate work arrangements
- Supportive environment

Accommodation – Religious Needs

Employers should consider:

- Nature of religious observance
- Reason for uniform/dress code, work schedules etc.
- Alternative measures to accommodate
- Potential health/safety hazards

Multani (SCC)

Undue Hardship

Three main considerations are:

- Health of others
- Safety
- Cost

Bona Fide Occupational Requirement (3 Part Test)

1. Does the standard or requirement have a **rational connection** to the performance of the job? (Is it required for the work to be done safely and efficiently?)
2. Is the standard imposed by the employer **in good faith**, believing that it is necessary to the job?
3. Is the standard **reasonably necessary** or is it impossible to accommodate the employee's needs without imposing **undue hardship** on the employer?

Assessing Undue Hardship

Questions to ask or be asked (BFOR):

- Do all employees have to meet one standard?
- Is there another way to do the job that would get around the problem?
- Did you consider these alternatives?
- If there were alternative standards, why were they not chosen?
- Have other employees and/or the union been consulted?

Organizations need to foster a workplace environment where human rights and responsibilities are promoted and respected and where employees are free from concerns related to basic equity issues.

(Bates and Este, Creating Workplace Environments That Reflect Human Rights Values)

For information on workshops

Call Sushila Samy
Coordinator, Education Programs
at 780-427-4688

Toll Free dial 310-0000 and the phone
number

or

Visit our website at
www.albertahumanrights.ab.ca



Industrial Construction Crew Supervisor

Designated Occupation

Designated Occupation

- Industry program
- Standards determined by occupational committee
- Administered by Advanced Education and Technology
- Occupational certificate



Certification Requirements

1.	Complete Recognized Training	OR	Complete ICCS <i>Employer Assessment of Competency</i>
2.	Complete Work Experience		
3.	Pass Certification Exam		

1. Complete Recognized Training

Approved supervisor/leadership training

- *Better Supervision* – Construction Labour Relations and the Building Trades of Alberta
- *Supervisor Training Program* – Christian Labour Association of Canada
- *Supervisor Training Program* – Merit Contractors Association

Approved safety leadership training

- *Leadership for Safety Excellence* – Alberta Construction Safety Association



OR

1. ICCS Employer Assessment of Competency

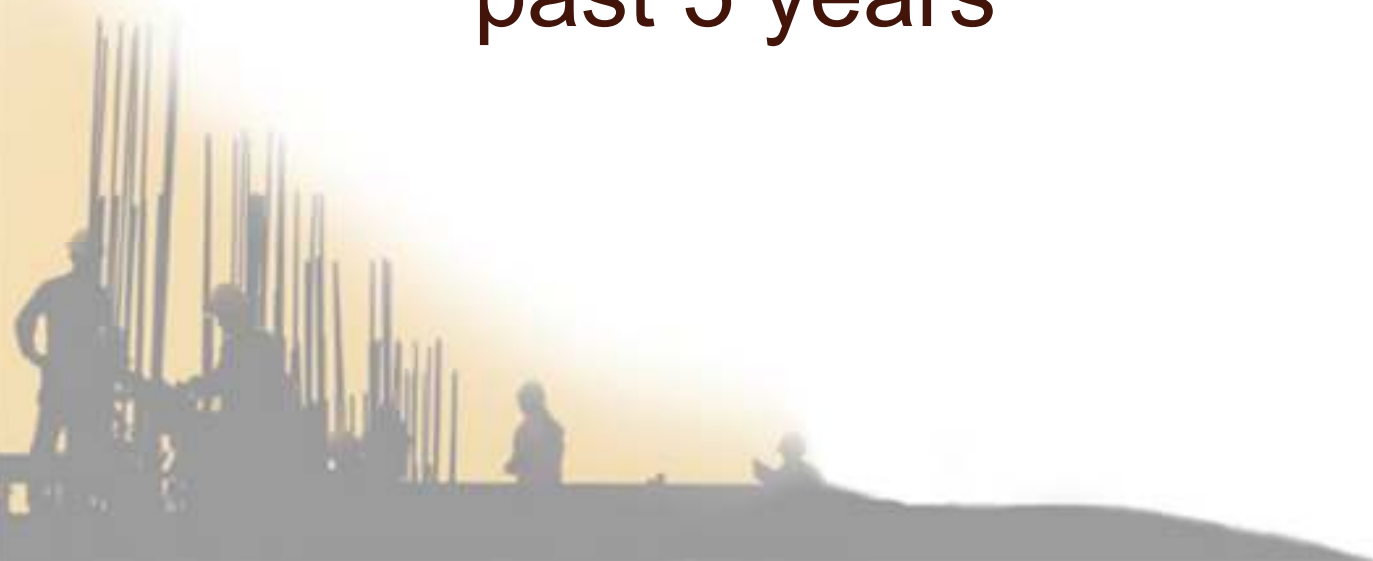
E.g. Leadership Skills

Be able to create and lead an effective, cohesive team of skilled workers.



2. Complete Work Experience

- 1000 hours work experience gained within a 2 year period
- 2 year period must be within the past 5 years



3. Pass provincial examination

- 115 questions
- 3 hours
- Administered at Alberta
Apprenticeship and Industry
Training office



Benefits of Designation

- Strengthened skills
- Greater productivity
- Established standards
- Greater mobility
- Greater recognition





For more information:

www.tradesecrets.gov.ab.ca





Don't Take Yes for an Answer

and other tips for communicating across a language barrier

**Presentation to the
COAA Best Practices Conference**

**May 18, 2011
Edmonton, Alberta**

**Karen Hammond
Hammond & Associates Inc.**

The Near Future



- **Steady growth in Alberta's construction industry**
- **Non-residential employment to reach levels 10% above the peak in 2008**
- **New entrants to the workforce will not meet the need**
- **Industry will need to recruit 27,000 construction workers from other industries, regions or countries.**

*-Sector Council Source: ALBERTA
Looking Forward: 2010 – 2018 Key Highlights*

The New Reality



“Immigrants are expected to account for all net labour force growth by 2011, and for all net population growth by 2031”

-HRSDC: Skills and Learning for Canadians,
http://www.hrsdc.gc.ca/eng/publications_resources/research/categories/llsd/2002/km_slc/page07.shtml

The Real Opportunity

- To optimize and leverage the skills of Internationally Trained Workers (ITWs) while mitigating and managing the challenges, *if any*
- To gain competitive advantage by recruiting, training, retaining and developing ITWs

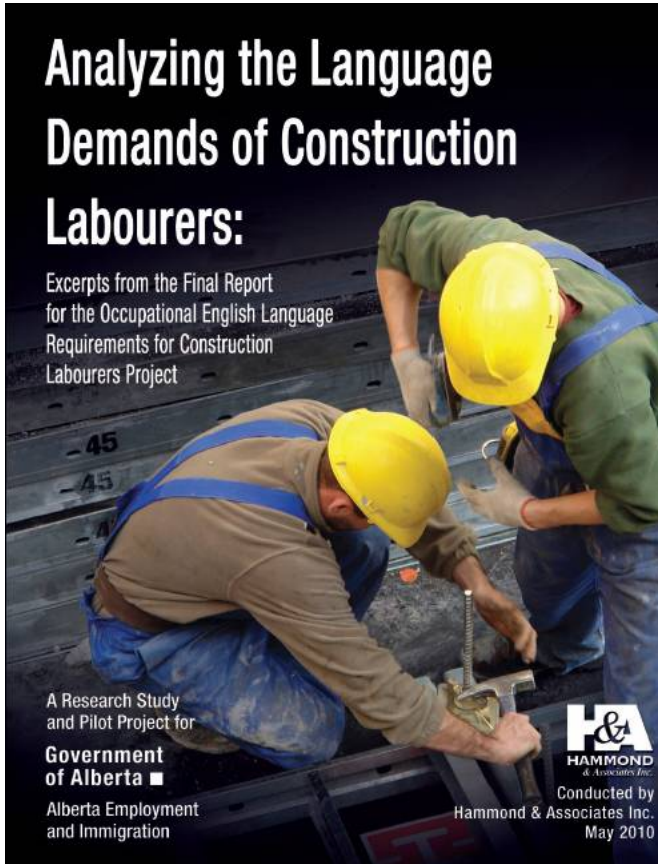


Two Recent Projects




Analyzing the Language Demands of Construction Labourers:

Excerpts from the Final Report for the Occupational English Language Requirements for Construction Labourers Project



A Research Study and Pilot Project for
Government of Alberta ■
Alberta Employment and Immigration



H&A
HAMMOND & Associates Inc.
Conducted by
Hammond & Associates Inc.
May 2010



Analyzing the Language Demands of Electricians

By: Hammond & Associates Inc.
January 2011

A project for:

-  Electrical Contractors Association of Alberta
-  The International Brotherhood of Electrical Workers Local 424

Funded by:

- Electrical Industry Education Trust Fund of Alberta
- Government of Alberta** ■

www.hammondassociatesinc.com

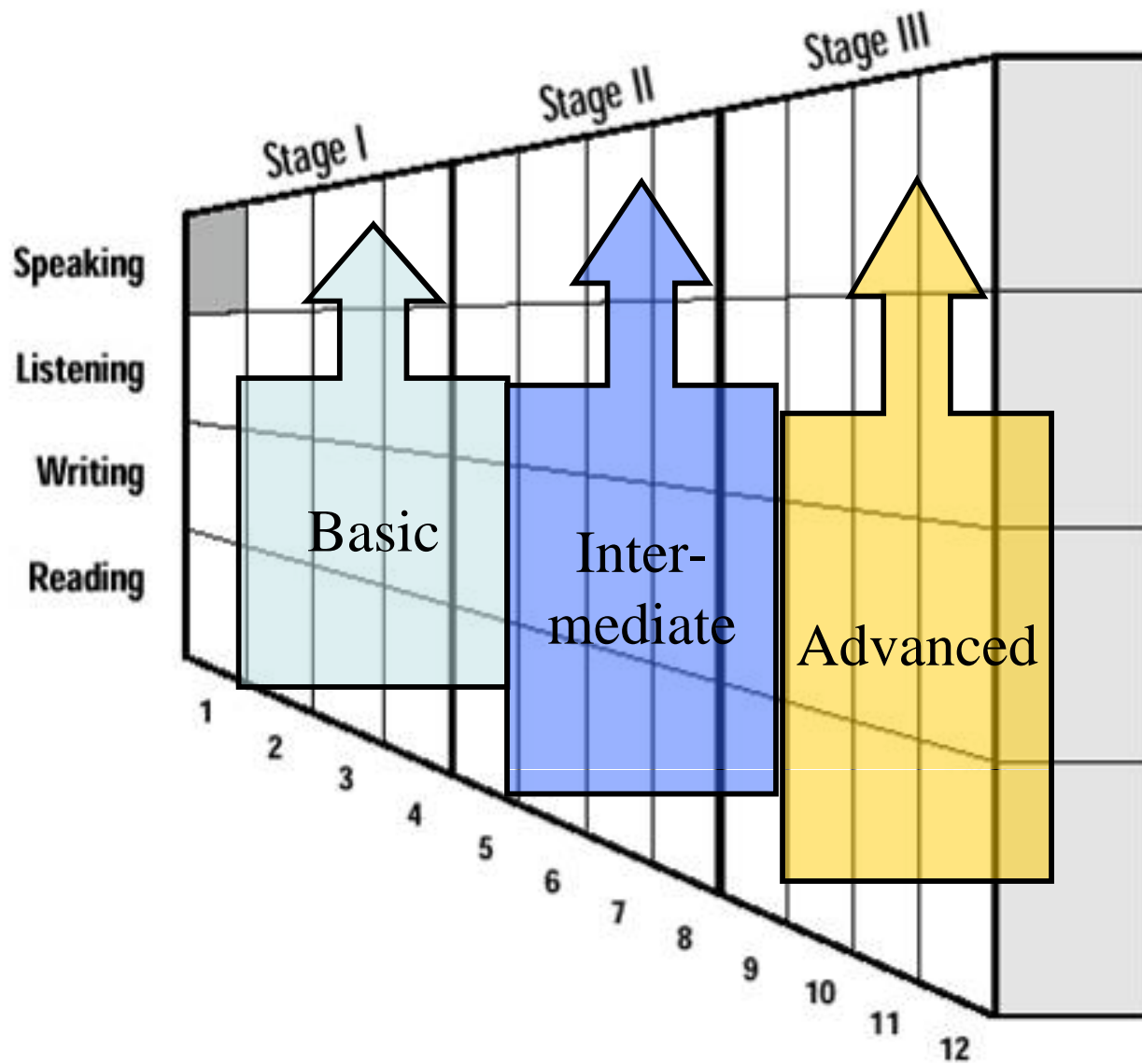
The Canadian Language Benchmarks



- **Canada's national standard for describing, measuring and recognizing the second language proficiency of adult immigrants and prospective immigrants for living in Canada**

See: www.language.ca

Schematic Structure of the Canadian Language Benchmarks



Lessons Learned

- **It's not just English**



© Karen Hammond & Tara Holmes

Lessons Learned



- **It's not just one number**

Occupation	Construction Labourers		Electricians	
	Routine	Spikes	Routine	Spikes
Speaking	5	6	5-6	6
Listening	5	6	5-6	7-8
Reading	4	6	5-6	6-8
Writing	3	4	5	5

Lessons Learned

- **The numbers aren't the same, anyway**
- **What level of English I need to work for you depends on:**
 - The work
 - The people
 - The processes
 - The systems



Example: Toolbox Talk

- **Same task, three companies, three results**
 - **Company A: Listening CLB 5-6**
 - **Company B: Listening CLB 6-7**
 - **Company C: Listening CLB 7-8**



In Summary

- **It's a team effort**



Strategies for Supervisors



Let's start with the supervisor
10 strategies to use tomorrow

1. Don't take yes for an answer

- Why would someone *not* tell you they don't understand?
- It's probably the wrong question, anyway
 - Ask open-ended questions (5 W's)
 - Tell me what I just told you
 - Show me what I just told you

2. A picture is worth a 1000 words

- **Show vs. Tell**



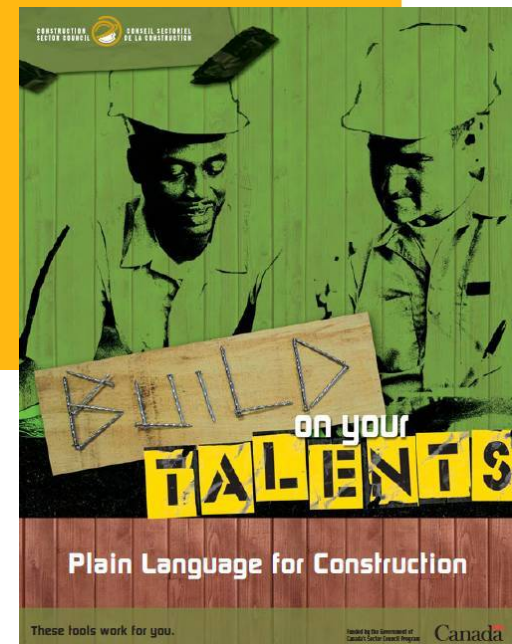
3. Rephrase using *different* words

- For example, say
 - “tell” vs. notify, inform, advise, indicate, report to...
 - “start “vs. initiate, commence, undertake, implement, instigate
- Use the dictionary term or explain the slang or brand name (e.g. pliers vs. kleins or linesman)
- Explain acronyms or abbreviations e.g., FLHA
- A Clear Language Guide for the Construction Industry www.hammondassociatesinc.com
- Building on Your Talents www.whhttp://www.csc-ca.org/en/products/plain-language-constructionateveritis.com

Good Resources



Clear Language Guide FOR THE CONSTRUCTION INDUSTRY



4. Modify fast, reduced speech

- Translate this:

Wellwuzzygonnagetiternot?

- Intonation makes a difference
- Little sounds matter; emphasize them!
 - canNOT vs. can't; did not vs. didn't;
 - DISconnect; UNhook; MISaligned;
DISassemble; UNnecessary

5. Use sequence markers

- **Use clear sequence markers**
 - First, second, third
 - One, two, three, four
 - Then, next, after that, do this...
- **Be careful with multiple clauses**
 - Before doing/Prior to doing x, do x...
 - Do not do x, until x
 - If you are going to do x, then be sure to ...
 - While doing this, do that...
 - Under no circumstances are you to...
- **Package instructions in smaller units**

6. Don't be passive (grammatically)



- Choose active vs. passive word order
- Active voice (S-V-O) is shorter, clearly states or implies the subject (who does the action) and uses an easier form of the verb (e.g., wear vs. worn; drive vs. driven)

Active	Passive
Subject – Verb – Object	Object – Verb – Subject
Visitors must wear safety goggles.	Safety goggles must be worn by visitors.
Obey all safety rules.	All safety rules must be obeyed.
No cell phones or radios.	The use of cell phones or radios is prohibited.

7. Avoid or explain idioms

- An idiom's guide to communication ☺

Idiom (def'n): words, phrases or expressions that cannot be taken literally

- **Examples:**

- *Off the top of my head, I'd say...*
- *He's breathing down my neck.*
- *Good housekeeping is the cornerstone to safety.*
- *I'm gonna give him a little more rope...*
- *Two rolled ankles and a headbanger*
- *(In fall protection training): a beaver tail and a dog collar*

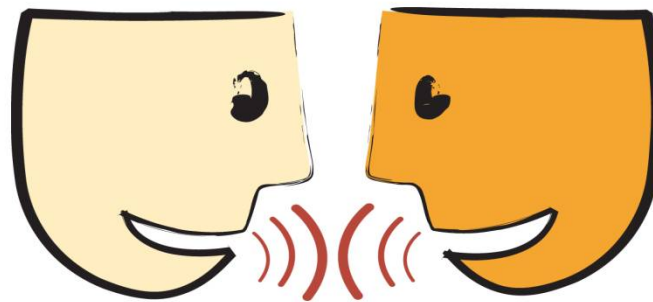
8. Watch the sports metaphors

- **From Baseball:** *Cover your bases, touch base; Step up to the plate; way over his head; bring it home; dropping the ball; way off-base*
- **Name the Sport:**
 - *It's a long shot, but...*
 - *Way over his head*
 - *Jump the gun*
 - *Carry it across the goal lines*
 - *You're out of bounds*



9. Let them see you talk

- **Face-to-face communication is much easier to follow**
- **Phone and radio communication may benefit from some standard terms and checks**



10. Put yourself in their shoes



- **Be patient**
- **Think about “what would help me”?**
- **Reflect on your own reactions**



Thank you!

Karen Hammond
Hammond & Associates Inc.
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karen@hammondassociatesinc.com
www.hammondassociatesinc.com

SUPERVISORS

A CRITICAL RESOURCE FOR THE CONSTRUCTION INDUSTRY

NATIONAL
OCCUPATIONAL
ANALYSIS



SKILLS
DATABASE



FIRST LEVEL
CONSTRUCTION SUPERVISOR
PROGRAM



NATIONAL
CERTIFICATION
PROGRAM



CONSTRUCTION
SECTOR COUNCIL



CONSEIL SECTORIEL
DE LA CONSTRUCTION



Why focus on supervisors?

- Increasingly important role on the jobsite
- Critical in getting the job done on time, on budget and safely
- Tradespeople often identified for promotion to foremen or supervisor positions without support and training
- Mobility
- Close to 25% will retire over the next decade



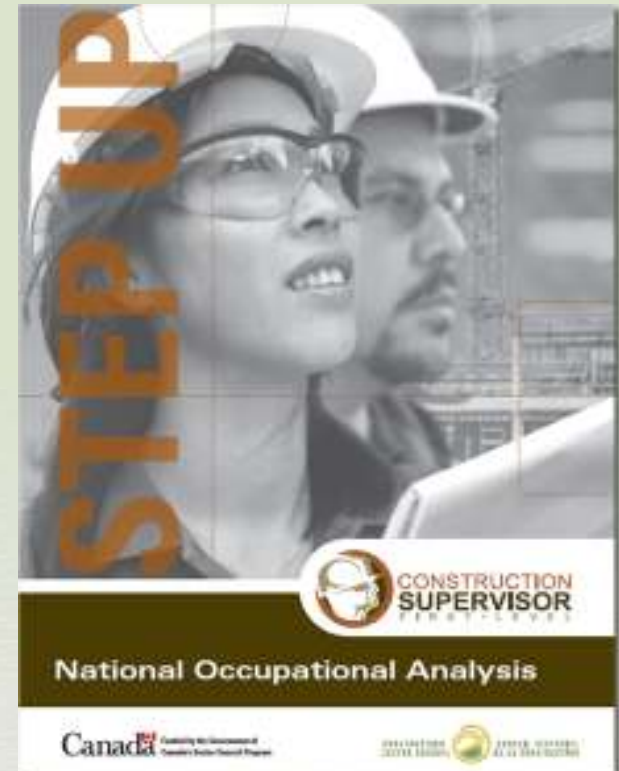
NATIONAL OCCUPATIONAL ANALYSIS



SUPERVISORS

A CRITICAL RESOURCE FOR THE CONSTRUCTION INDUSTRY

- **Definition:** Individuals who are directly involved in supervising the hands-on work of construction – one step removed from the tools. In some cases they may still work on the tools
- Developed a National Occupational Analysis
 - Industry input
 - Validated by close to 400 industry representatives





First Level Construction Supervisor Online Program

- Based on:
 - Recognized and respected industry programs
- Input from:
 - Advisory Committee
 - Subject Matter Experts





- Available as self-directed e-learning course but can also be blended with classroom-based training
- Benefits to blending:
 - Cost effective
 - Limits time spent in classroom
 - Maximize classroom time to drill deeper on topics that benefit from class interaction
 - Online portion can be used as prerequisite, preparation for classroom sessions or to reinforce key messages.





- **How is training reinforced?**

- Course takes approximately 14 hours to complete
- Key messages displayed in text on screen
- Audio and video to recognize different learning styles
- Interactive activities to reinforce training messages
- Assessment questions at end of each module



FIRST LEVEL CONSTRUCTION SUPERVISOR PROGRAM



SUPERVISORS

A CRITICAL RESOURCE FOR THE CONSTRUCTION INDUSTRY

- Learners must achieve 100% to receive a certificate of completion
- Certificates can be generated by the learner from their account or manually by a course distributor
- Certificates can be co-branded





Course Modules

1. Introduction
2. What is a Supervisor?
3. Supervision Basics
4. Safety
5. Human Resource Management
6. Planning and Scheduling
7. Productivity and Quality
8. Leading Effective Work Teams





Objectives

- Create a more formalized system for certifying supervisors and accrediting training programs
- Provide industry with a formalized means of assessing the credentials of first level supervisors
- Provide supervisors with recognition of their skills and experience
- Align supervisory training across the country with the National Occupational Analysis
- Facilitate mobility of construction supervisors





Guiding Principles

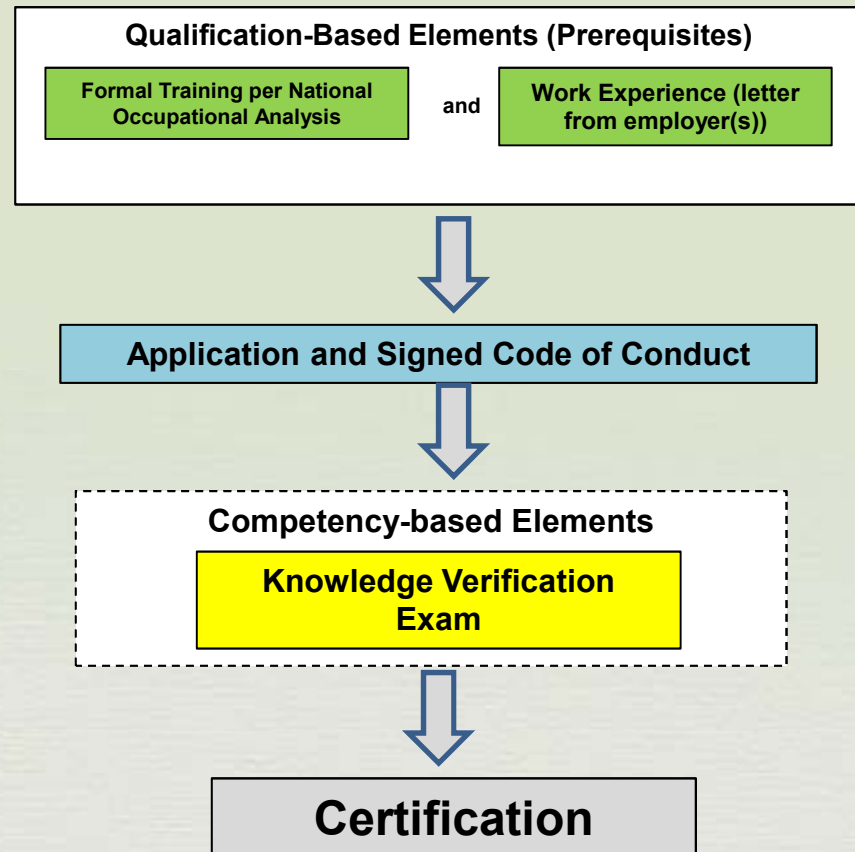
- Respect and build-on of existing industry and provincial certifications (be inclusive)
 - Alberta Industrial Construction Crew Supervisor
 - Gold Seal
- Ensure rigorous requirements that are not intimidating to achieve
- Industry led
- Voluntary





Process

- Qualification
- Application
- Assessment
- Certification





- **Scheme Committee** responsible for the development and maintenance of the certification system
- Seek accreditation under ISO 17024
- Certification is achieved by:
 - Completion of training
 - Documented experience
 - Signed Code of Conduct
 - Exam
- Recognize training not accredit training (training providers submit an application based on criteria established by the Scheme Committee)
 - Less formal
 - No audit
 - Less Costly
- Recognition of other industry certifications



- Under the direction of the certification body, the Scheme Committee will oversee the:
 - scope,
 - eligibility requirements,
 - prerequisites,
 - occupational standard,
 - program development and other requirements for competency related to the occupation.





- CSC Scheme Committee representatives will include:
 - Owners
 - Contractors
 - Construction supervisors, experienced foremen, superintendents, senior field supervisors
 - Training Providers
 - Commercial/Institutional/Industrial/Residential/Civil
 - Labour Groups
 - Regulators





Training Requirements

- Formal training meeting the requirements of the NOA
- Recognition of training rather than accreditation
- Curriculum checklist
- Training providers self-identify
- Training providers meet all the training provider checklist requirements
- Based on the checklist, a program administrator:
 - conducts a desk-check to identify whether the training provider has met the criteria for recognition
 - identifies any gaps that would need to be addressed prior to recognition





Work Experience

- 1,000 hrs of experience within a 2 year period over the last 5 years leading up to the application process constitutes a sufficient length of work experience





Application Process

- Candidates submit application complete with record of training, experience letter from employer
- Candidates sign a code of conduct
- Upon successful application and payment of required fees, candidate will meet the requirements to challenge the knowledge examination





Test Development

- **Validity.** The test accurately measures what it is intended to measure (knowledge, skills, and abilities).
- **Reliability.** The test gives consistent results over time.
- **Fairness.** The test gives no particular group or individual an unfair advantage.





National Skills Database

- Industry identified need for a skills and management database
- Go beyond counting people to counting skills
- Greater depth of information on the workforce that is available to the industry
- Alberta Government funding pilot to test out database in Alberta for supervisor occupation





- The objectives are to provide:
 - public and private owners with better insight into available supervisor talent "domestically"
 - labour groups with current and real information that would allow them to target their skill training and development efforts
 - governments with data that informs them on their policies and programs, the replacement efforts required, apprenticeship, Aboriginal people, women, temporary foreign worker, immigration strategies etc . . .
 - the education and training community with information to better target and plan their curriculum, classroom space, and investments in training infrastructure
 - the contractor community with information to better target their recruitment and retention strategies.





Sample data fields

- Age
- Gender
- Years of formal education (excluding trade school)
- Number of weeks working as a supervisor in each sector over last 12 months
- Number of weeks working in each type of work over last 12 months
- Trades with a C of Q or TQ
- Other certificates, diplomas, or degrees
- Safety training
- Other types of training
- Years worked in construction
- Affiliation (traditional craft union, alternative union, open shop, non-union)
- Provinces or territories worked in the past twelve (12) months





SUPERVISORS

A CRITICAL RESOURCE FOR THE CONSTRUCTION INDUSTRY

Thank You

For more information contact:

Construction Sector Council

(613) 569-5552

info@csc-ca.org

www.csc-ca.org

CONSTRUCTION
SECTOR COUNCIL



CONSEIL SECTORIEL
DE LA CONSTRUCTION



Global Competitiveness

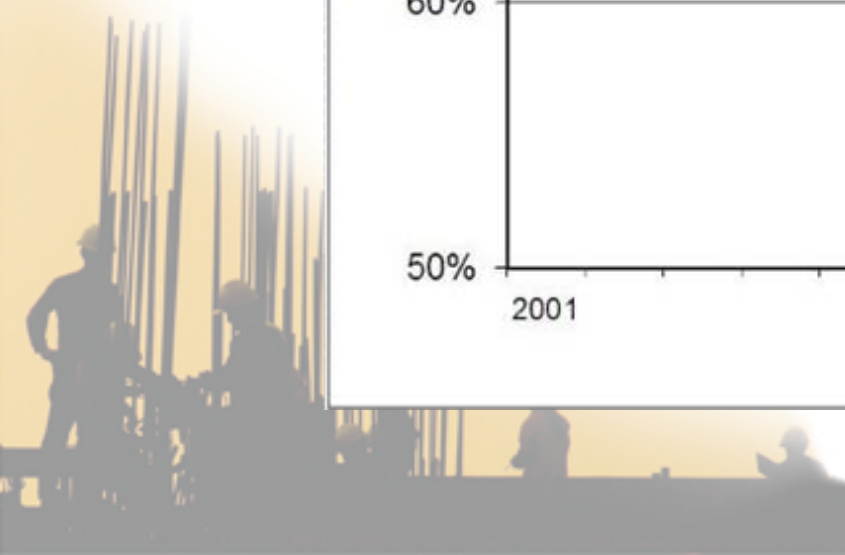
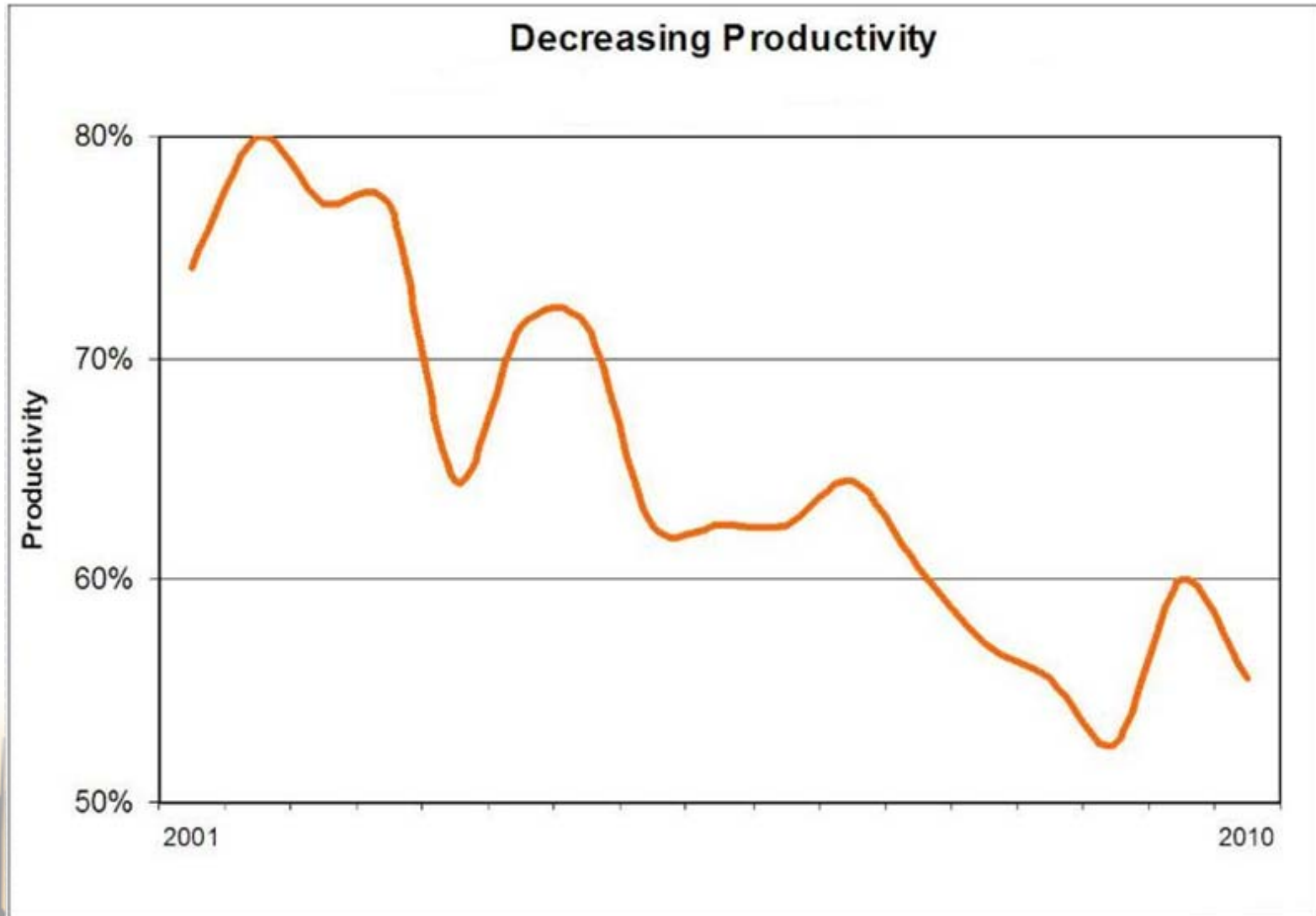
What is it going to take?



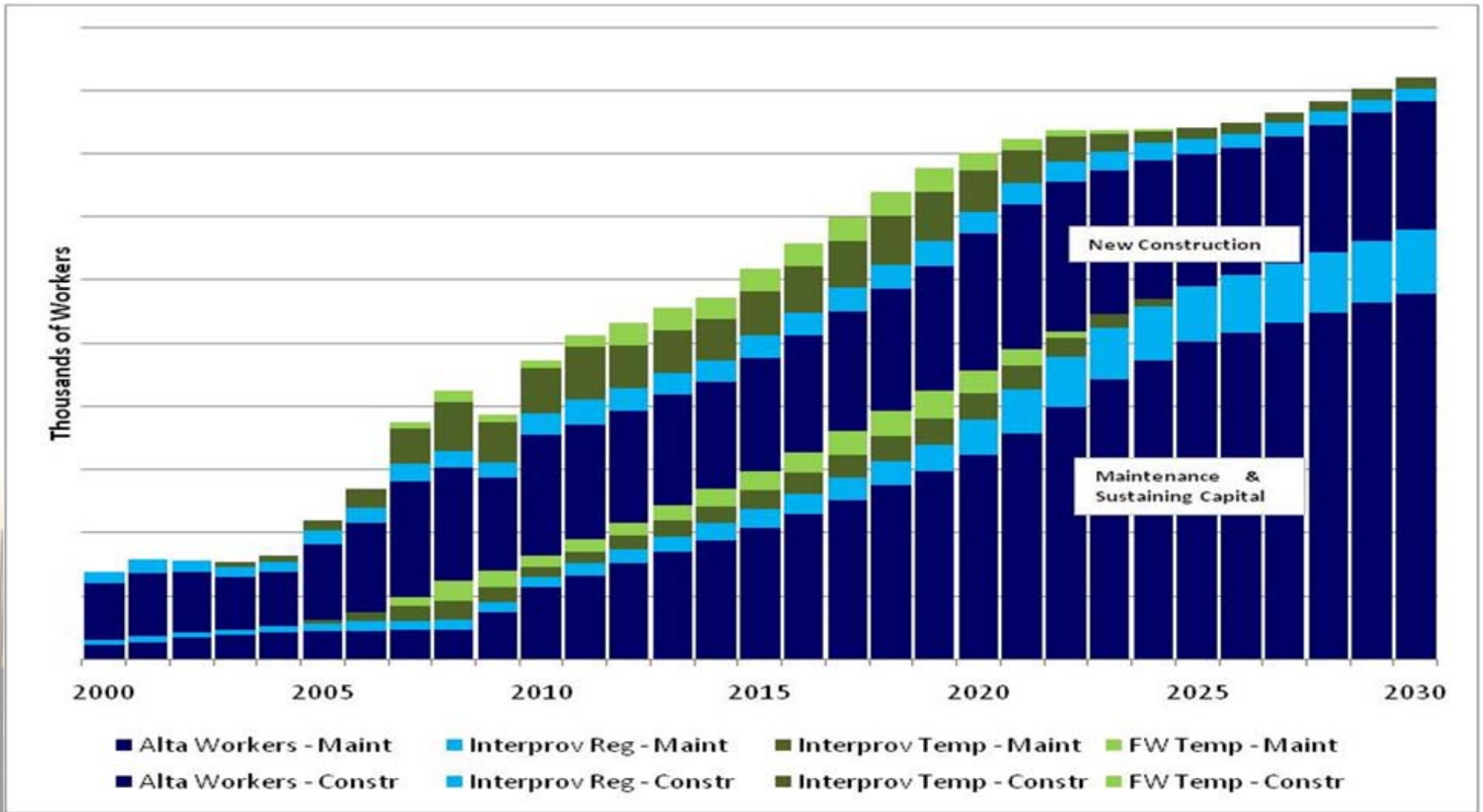


COAA
Construction Owners
Association of Alberta

Globally Competitive?



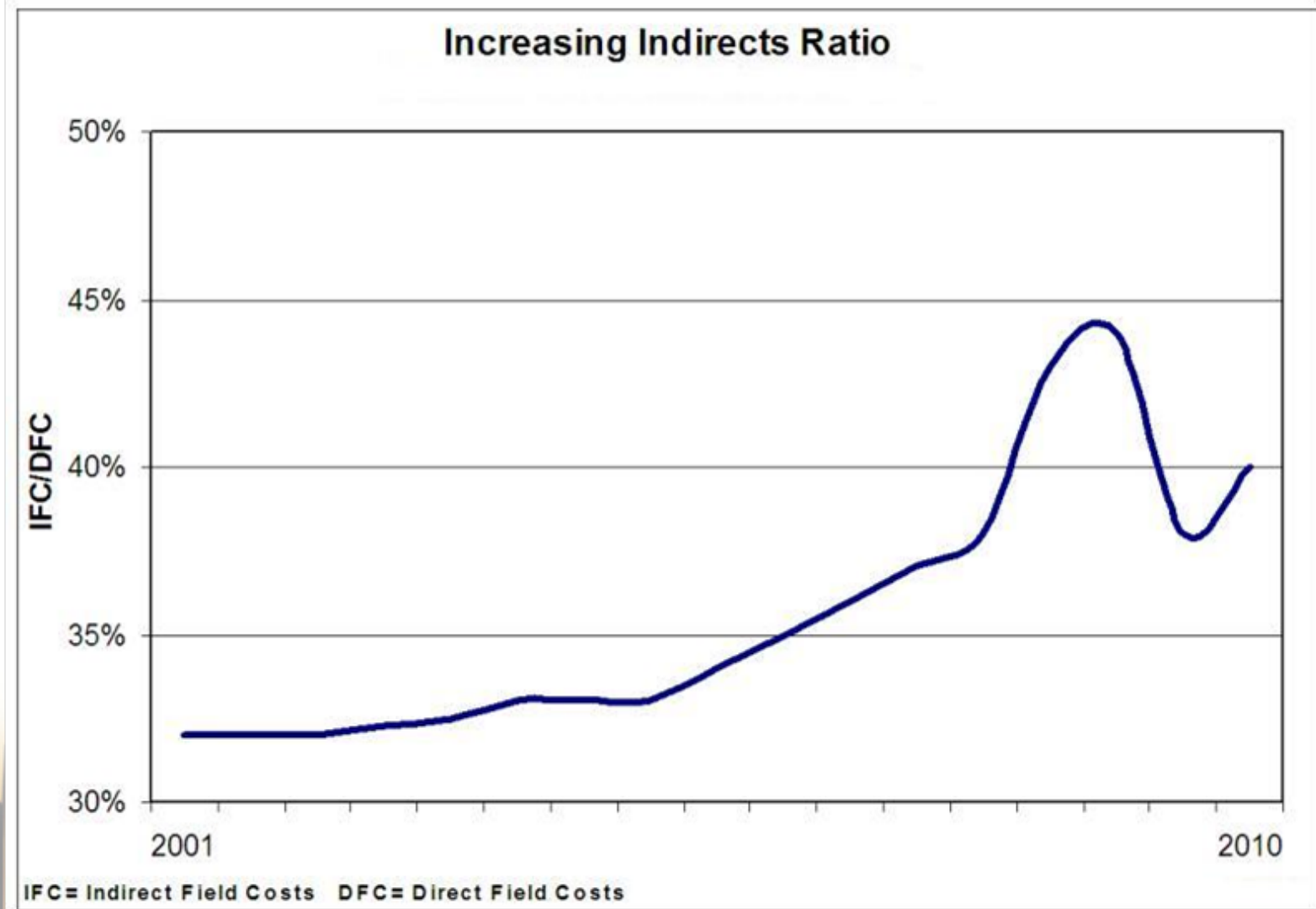
Labour Demand Curve





COAA
Construction Owners
Association of Alberta

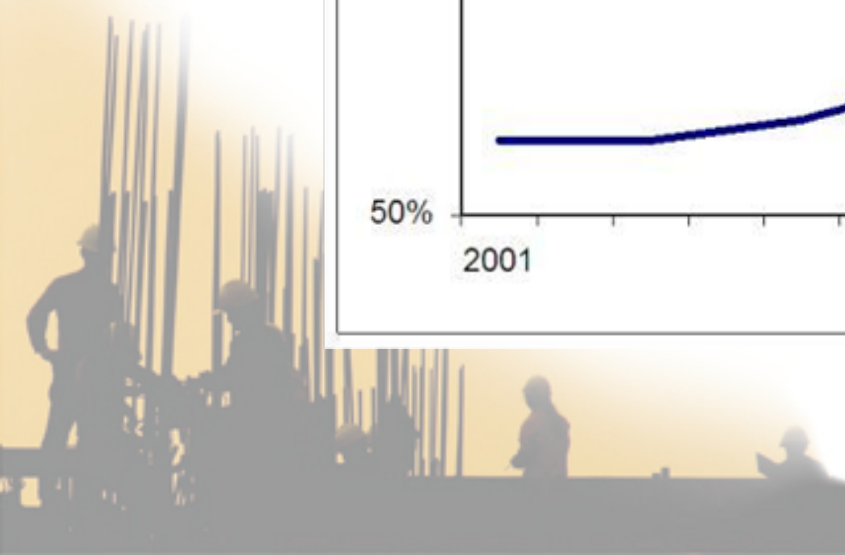
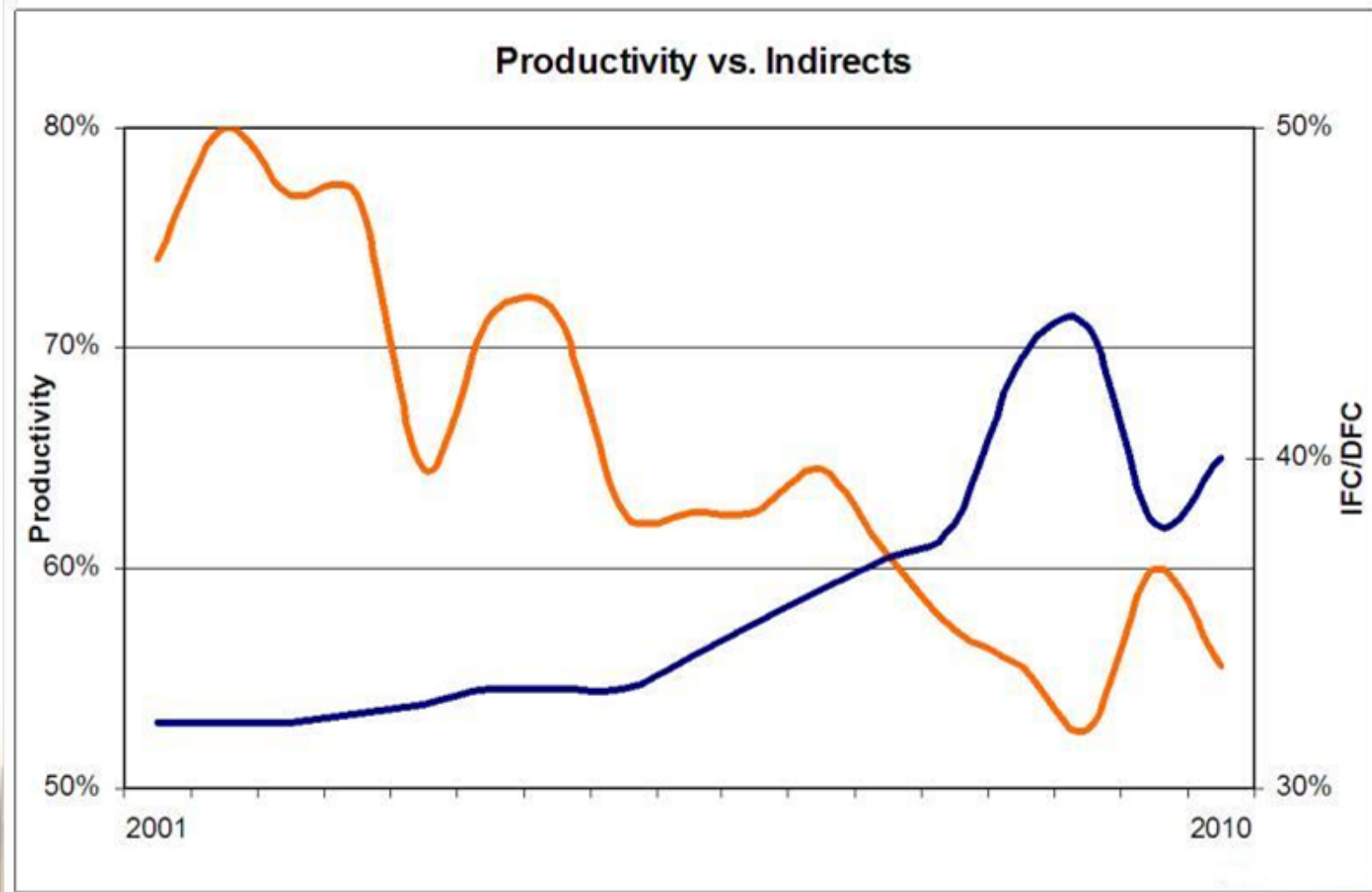
Compounding the issue





COAA
Construction Owners
Association of Alberta

The Double Negative!



Who can do something about it?

- Owners
- Governments
- Labour
- Contractors



Challenge



Two different views

Opportunity





Owners

Challenge

Owners

- Risk to return on investment
- Risk to future investment

Opportunity



Challenge

Owners

- Risk to return on investment
- Risk to future investment

Government

- **Resources are the base of our economy and construction makes them accessible**
- **Constrained project delivery = constrained economic performance**

Opportunity



Challenge

Owners

- Risk to return on investment
- Risk to future investment

Government

- Resources are the base of our economy and construction makes them accessible
- Constrained project delivery = constrained economic performance

Opportunity

Labour

- **Career opportunities**
- **Leadership opportunities**



Challenge

Owners

- Risk to return on investment
- Risk to future investment

Government

- Resources are the base of our economy and construction makes them accessible
- Constrained project delivery = constrained economic performance

Opportunity

Labour

- Career opportunities
- Leadership opportunities

Contractors

- **Opportunity to become a preferred employer**
- **Opportunity to become a world-class contractor**



How do we reverse the trends?

By working together (contractors, labour, owners, government)

- COAA Mission

COAA provides leadership to enable the Alberta heavy industrial construction and industrial maintenance industries to be successful in our drive for safe, effective, timely and productive project execution in their industry.

- Deliver **world-class projects** through **improved productivity**
- COAA “**Best Practices**” and shared knowledge

- **Safety**

- **Contracts**

- **Rework**

- **Benchmarking**

- **Workface Planning**

- **Workforce Development**



How do we close the gap?

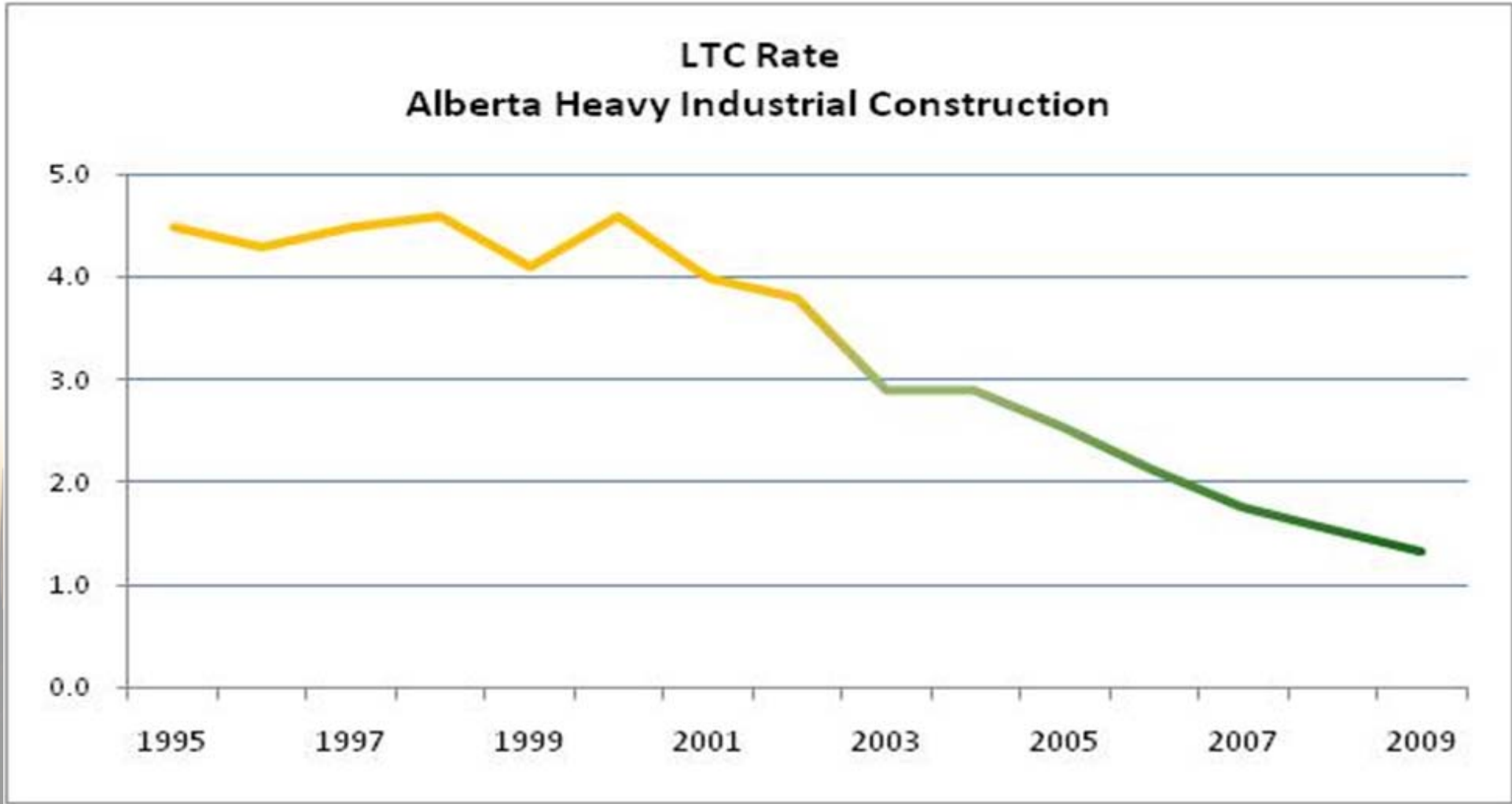
Through best practices & shared knowledge

Safety

- Behaviour Based Safety
- Canadian Model
- CSTS
- EHS Management
- Owners Guide
- Incident Investigation
- Training Records
- FLRA



...and the actual results of collaboration in the area of safety are



How do we close the gap?

Through best practices & shared knowledge

Safety

- Behaviour Based Safety
- Canadian Model
- CSTS
- EHS Management
- Owners Guide
- Incident Investigation
- Training Records
- FLRA

Contracts

- Stipulated Price Contracts
- EPC Contracts
- EPCM Contracts
- Builders' Lien Act
- Contractor Pre-qualification



How do we close the gap?

Through best practices & shared knowledge

Rework

- Overtime Best Practices
- Project Rework Reduction Tool



How do we close the gap?

Through best practices & shared knowledge

Rework

- Overtime Best Practices
- Project Rework Reduction Tool

Benchmarking

- Benchmarking (Phase 1 Report)
- Phase II data collection

Workface Planning

- In-depth Look
- Implementation Guide
- Path of Construction



How do we close the gap?

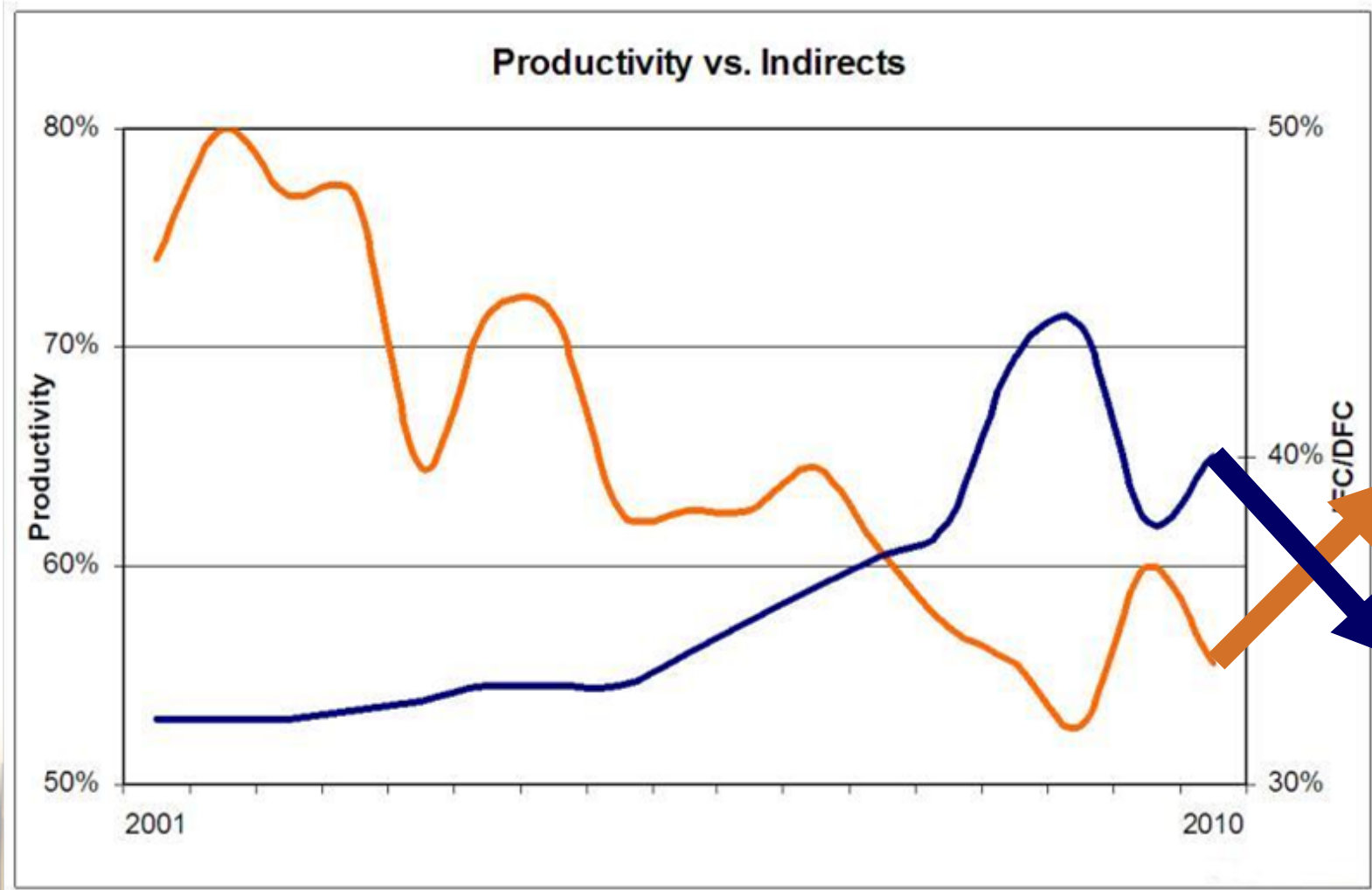
Through best practices & shared knowledge

Workforce development committee

- AIT Scholarships
- Essential Skills Toolkit
- Respect in the Workplace
- Supervisor Training
- Workforce Forecasts
- Absenteeism
- Women in Construction



Increase Productivity While Reducing the Cost of Indirects



What is it going to take?

- Agree that there is an issue
- Everyone must be engaged
- Continued Collaboration
- Best Practices into Practice
- Can Do Alberta Attitude



Don't Kill the Albertan Golden Goose...



INDEPENDENT PROJECT ANALYSIS



Restoring Owner Confidence in Alberta's Capital Effectiveness

Ed Merrow

May 2011



Context

- **The first decade of the 21st Century was very difficult for projects in Alberta**
- **The province, which previously had been considered a very good place in which to do projects, developed a distinctly poor reputation amongst international owners**

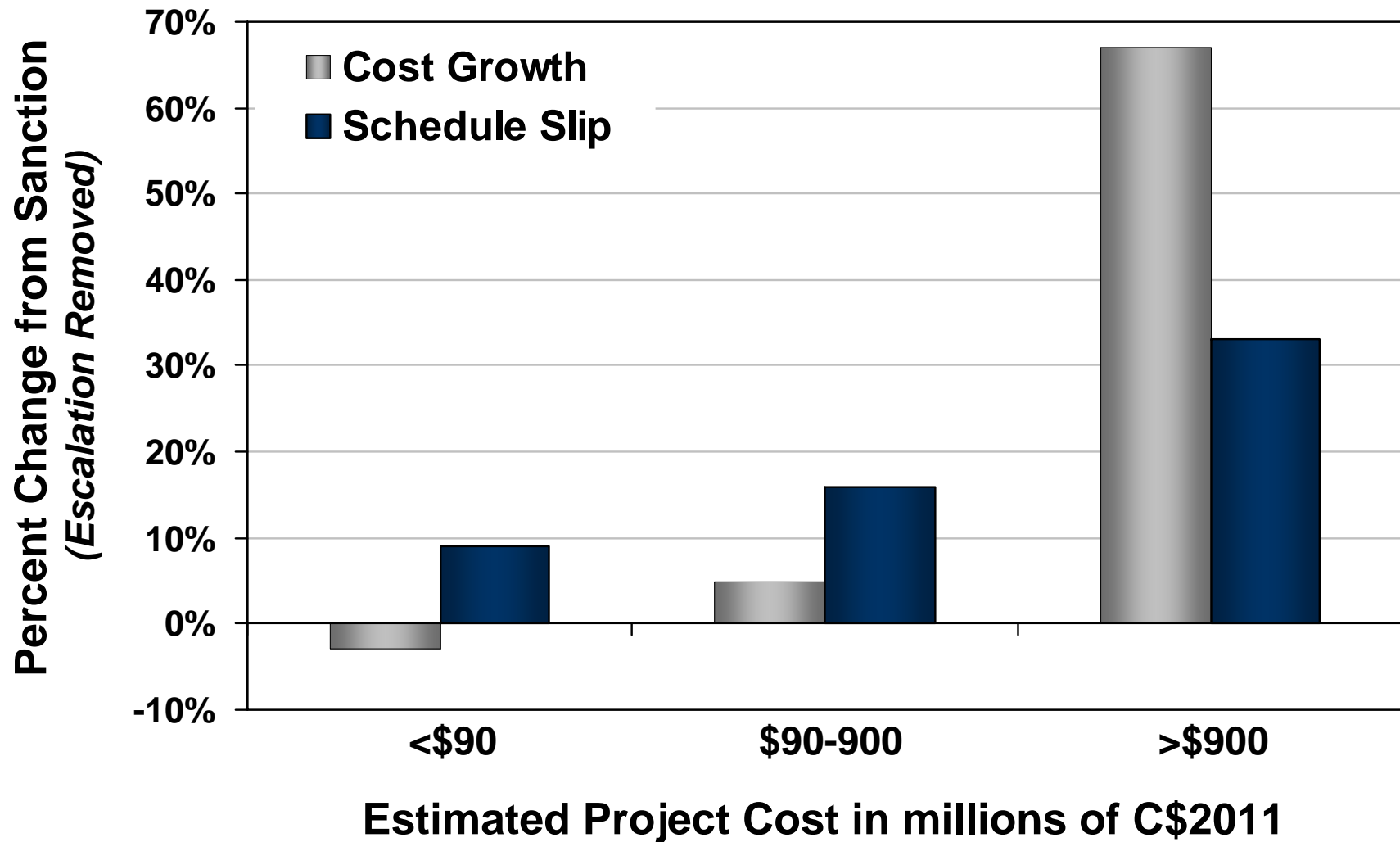
“Engineering and labour productivity are terrible up there!”

“Disastrous cost overruns!”

“Out of control!”

“No construction management at all!”

Actually, the Large Projects Were the Problem*



* Based on 173 projects authorized and completed in Alberta between 2000 and 2010



Some Questions

Is Alberta peculiar for having so many large project failures?

Why do large projects fail so often?

Who can fix the problems? (Who is to blame!)

Most Key Outcomes Degrade with Size

As Project Size Increases	Outcome	Probability
Cost Growth	Increases	<i>0.001</i>
Cost Competitiveness	Gets Worse	<i>0.0001</i>
Schedule Slip	Decreases up to \$600 million and then increases	<i>0.001</i>
Operability	Declines	<i>0.02</i>



Outcomes Diverge as Size Increases

- **We mostly maintain control of projects up to about megaprojects size**
- **Over \$900 million, project outcomes start to degrade very rapidly**
- **A wide chasm develops between good and poor projects:**
 - **Good projects are genuinely excellent**
 - **Poor projects tend to be poor on most every outcome**

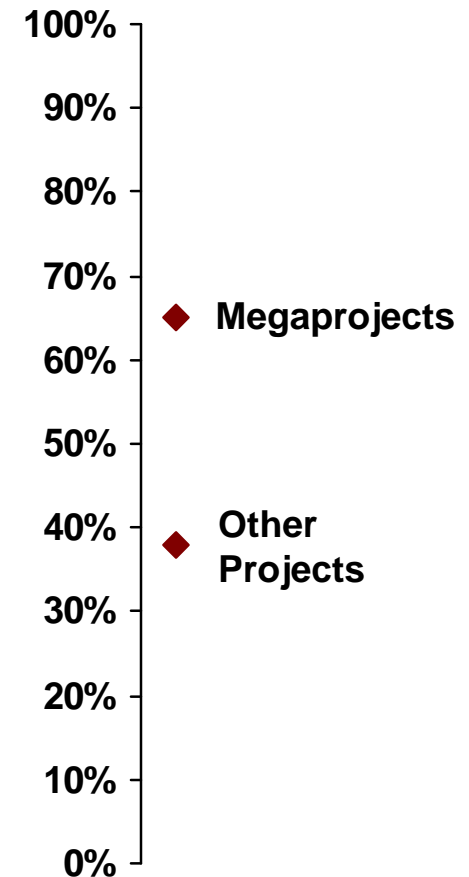


Defining Success and Failure

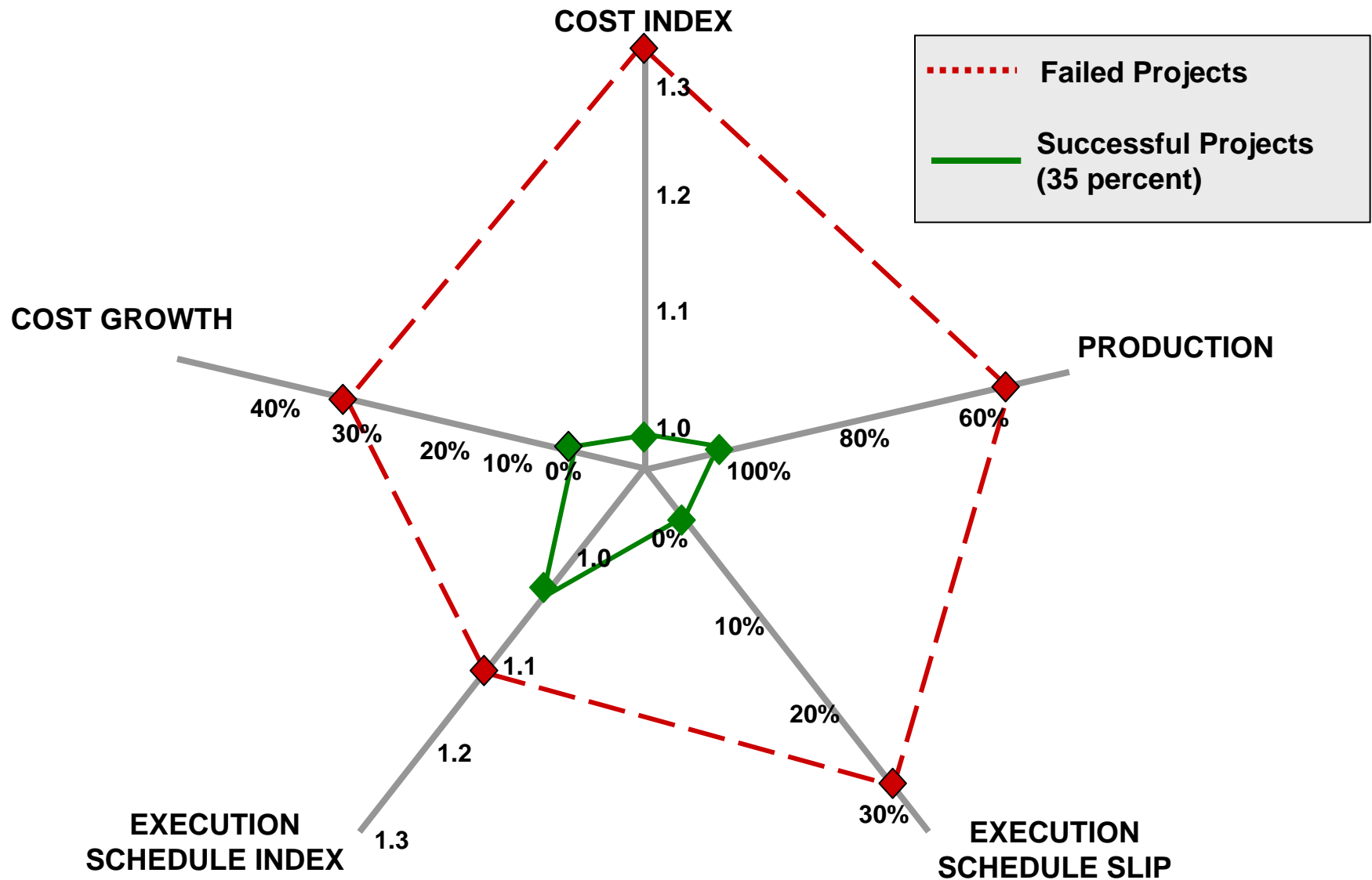
- We deem a project to be a **failure** if one or more of the following occurred:

Costs grew (real)	25% +
Schedule Slipped	25% +
Overspent (<i>Absolute Measure</i>)	25% +
Execution time (<i>Absolute Measure</i>)	50% +
Severe and Continuing Operational Problems for 2 or more years after startup	Yes

Failure Rate

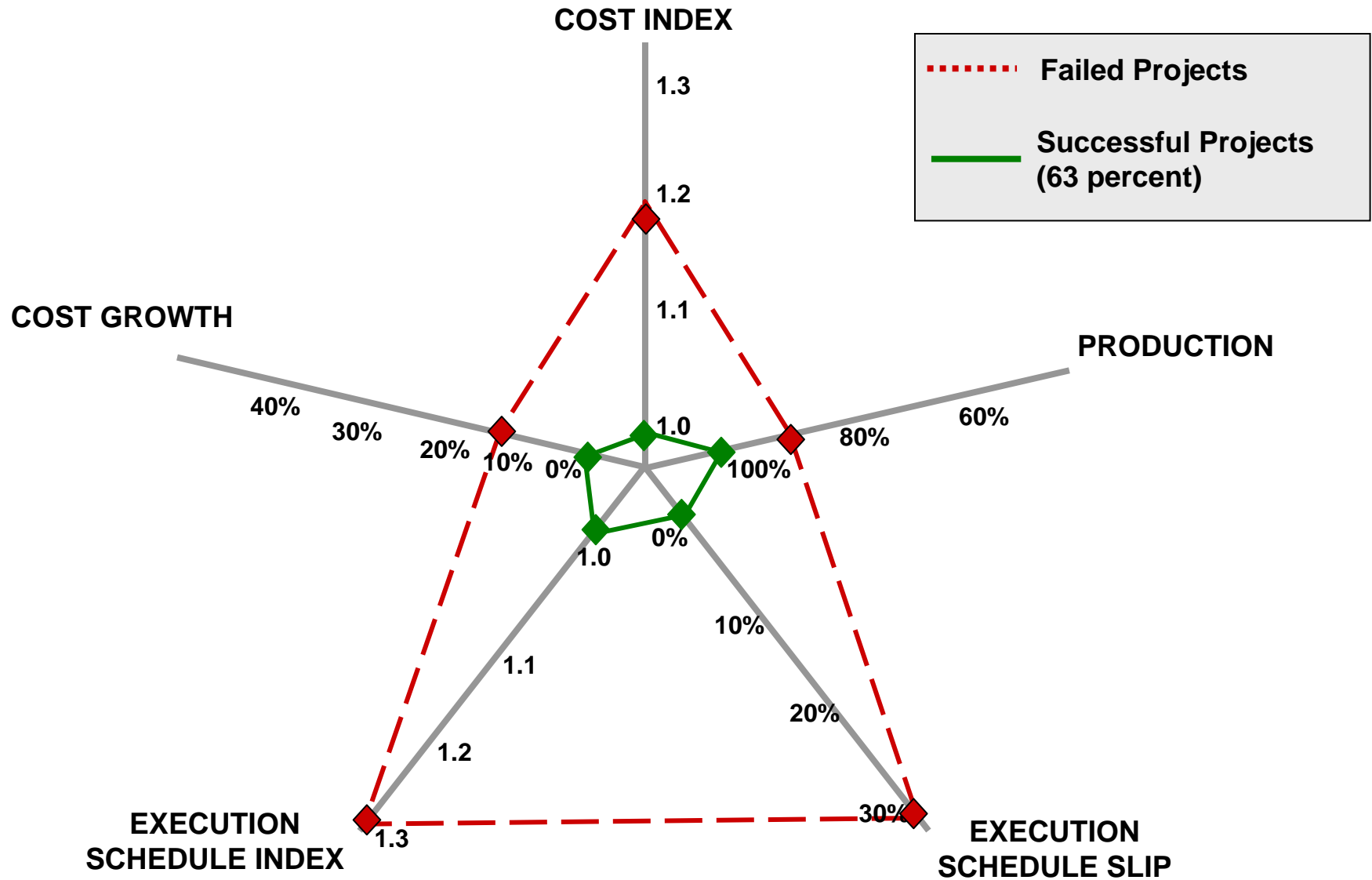


Megaprojects Split Into Radically Different Groups



Source: Merrow, Edward W. (2011). *Industrial Megaprojects : Concepts, Strategies, and Practices for Success*. Hoboken, New Jersey: John Wiley & Sons, Inc.

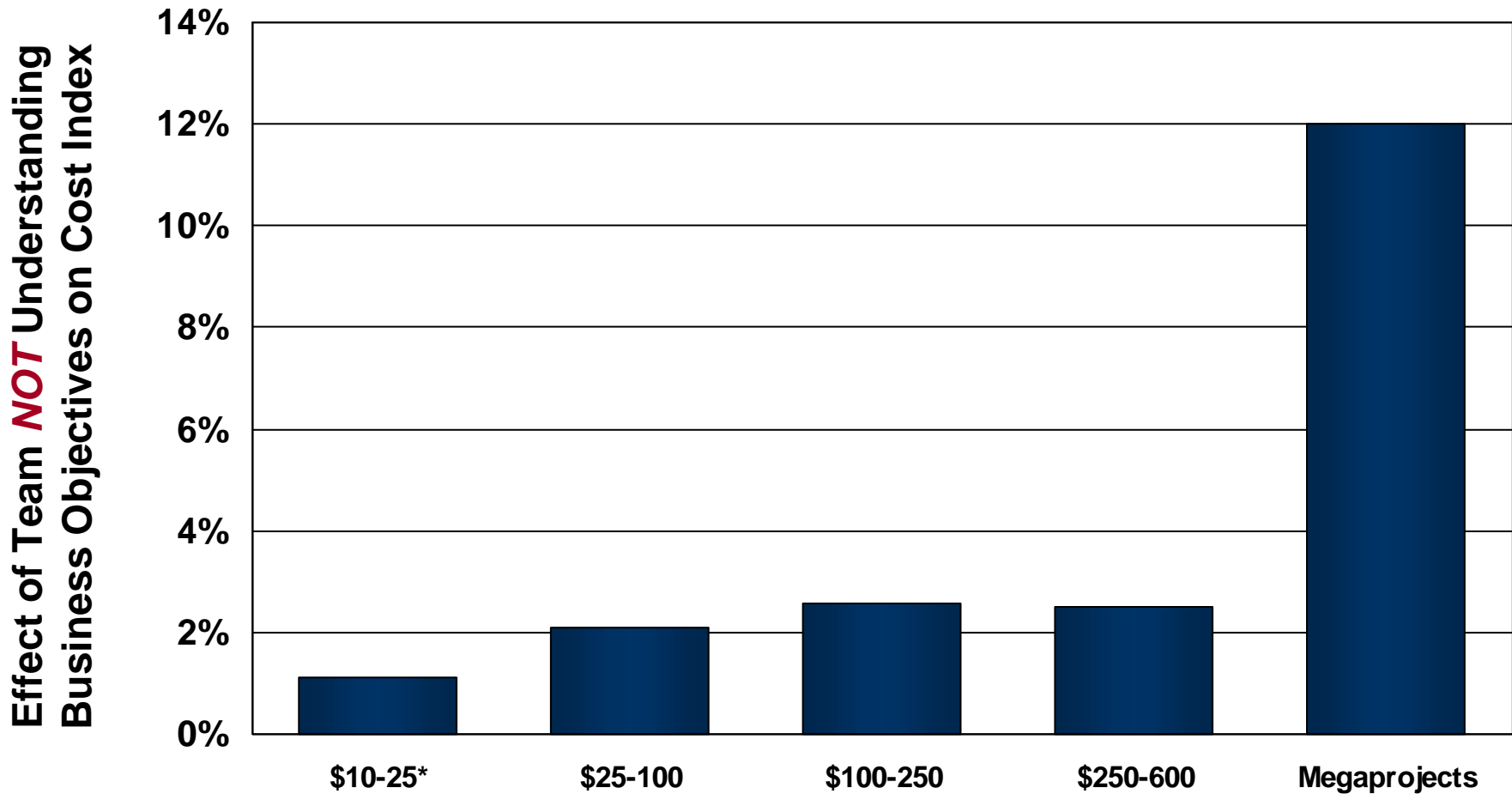
Non-Megaprojects Separate Very Differently



Four Essential Megaproject Practices

- 1** Clear business objectives, including clarity around the cost, schedule, operability tradeoffs
- 2** Full owner team staffing – no missing functions
- 3** Excellence in front-end loading
- 4** Stability in owner team leadership

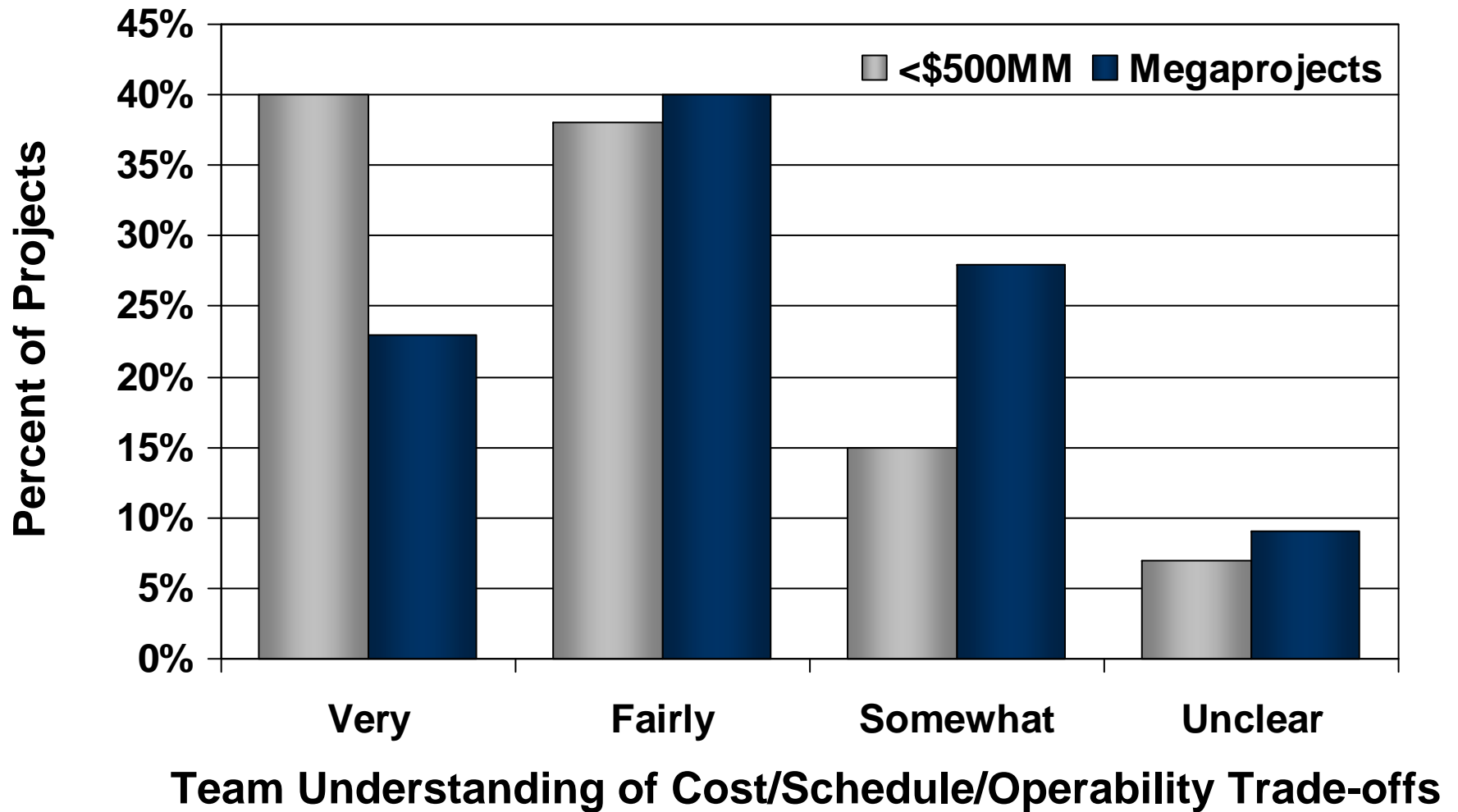
Clear Objectives Are Much More Important for Megaprojects



Clear Business Objectives & Tradeoffs

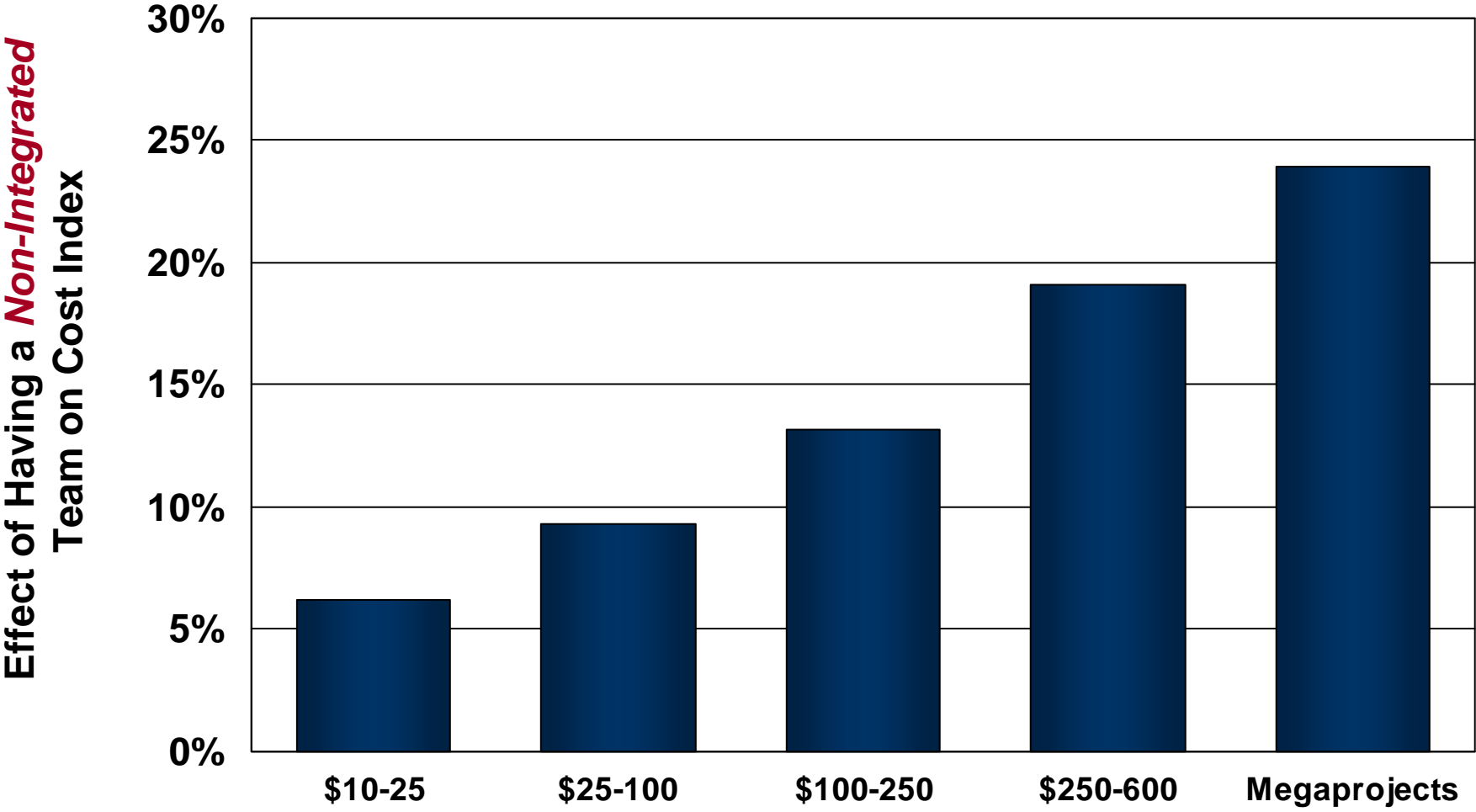
* All dollars in millions

Trade-offs Are Less Clear for Megaprojects



Clear Business Objectives & Tradeoffs

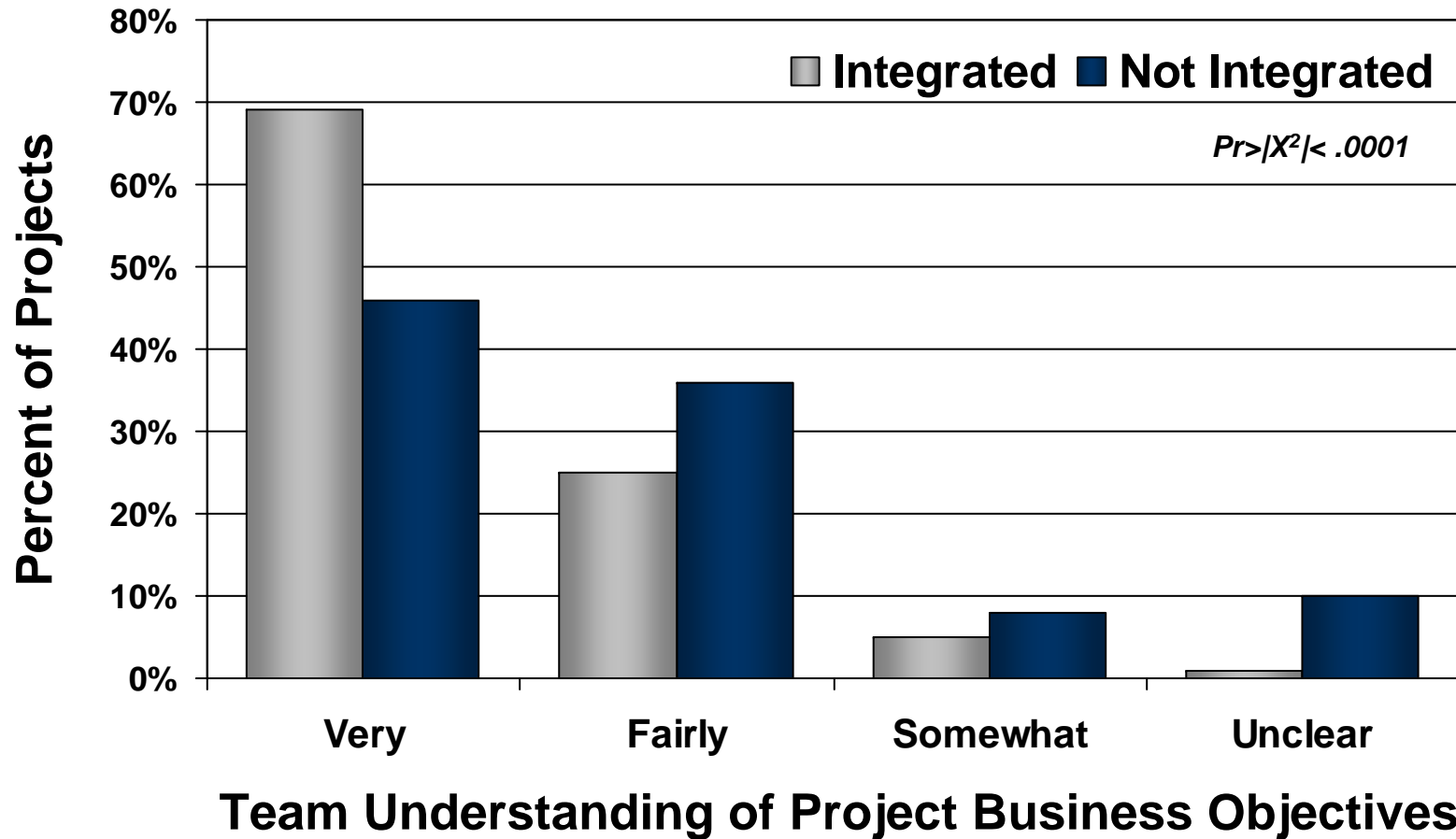
Team Integration Is Important for All *But Crucial for Larger Projects*



Full Owner Team Staffing

* All dollars in millions

Team Integration and Clarity of Objectives Go Together

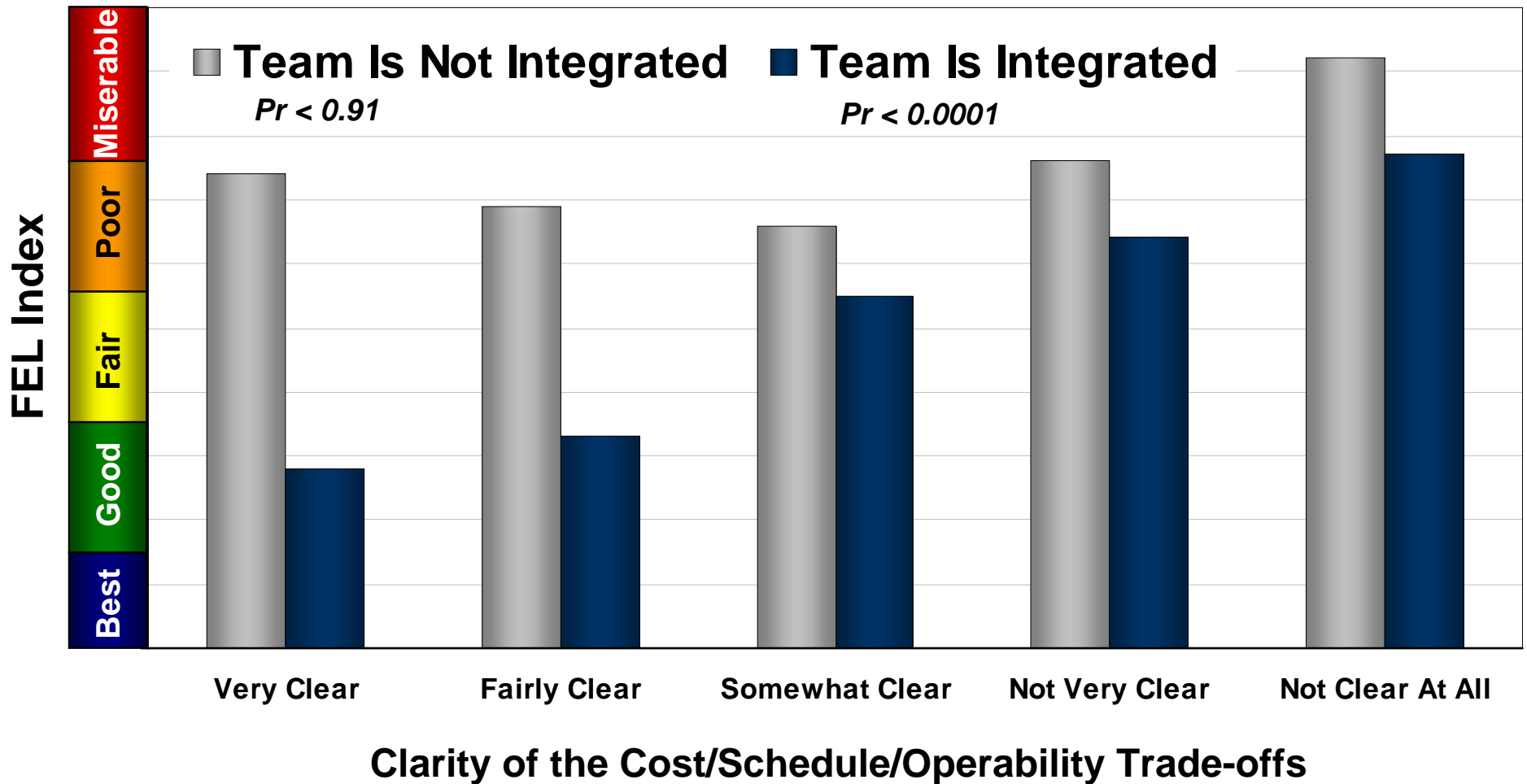


Data are for megaprojects only, but are similar for all projects

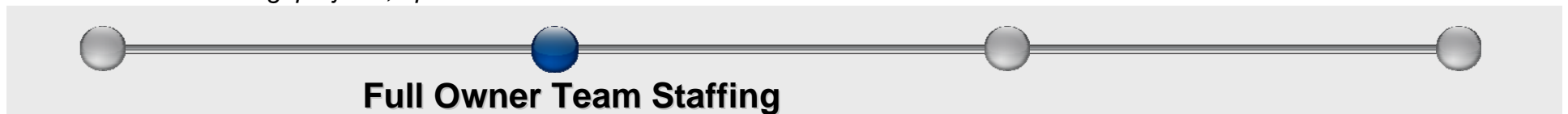


Full Owner Team Staffing

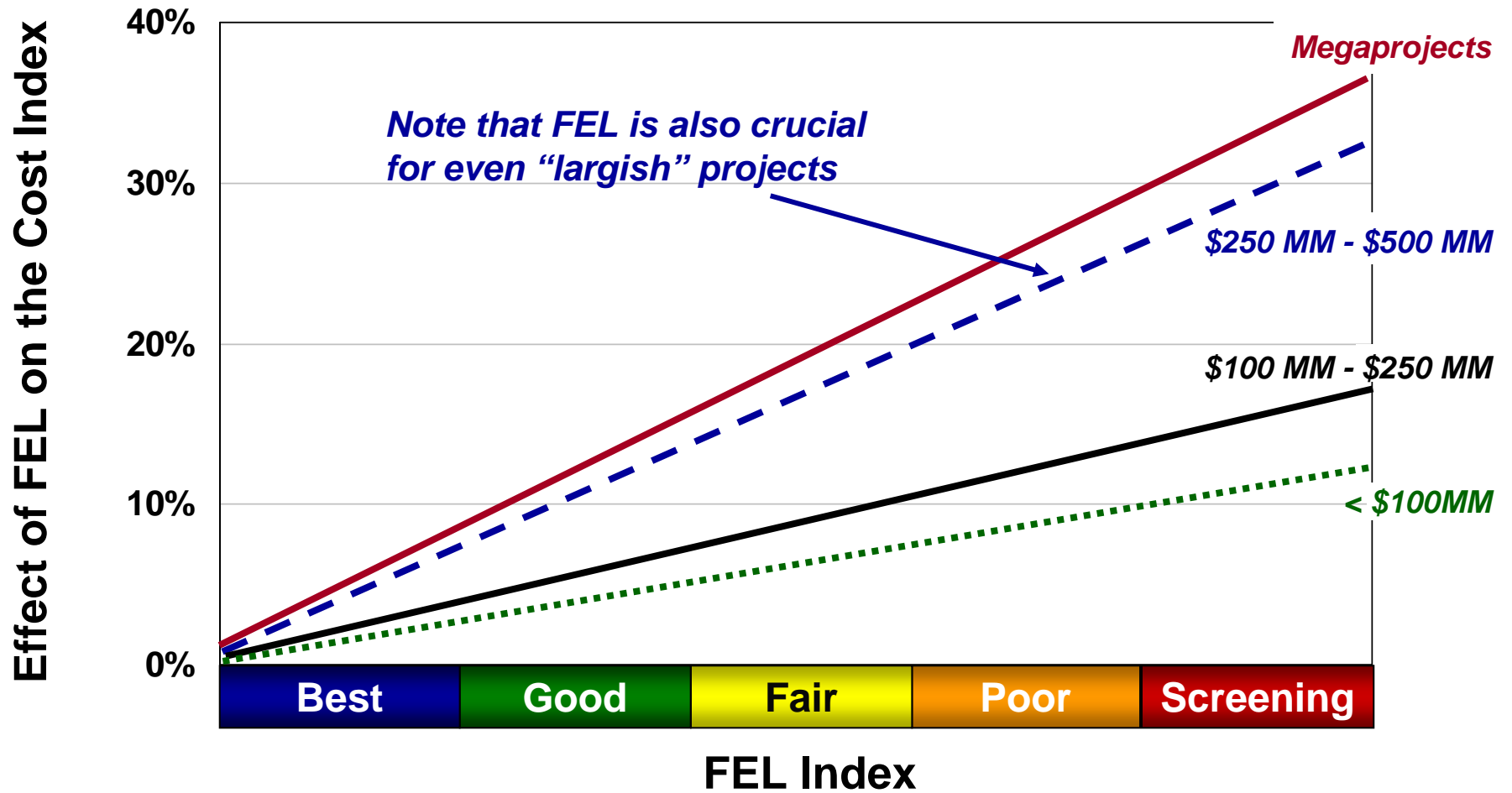
Team Integration Is the Critical Enabler



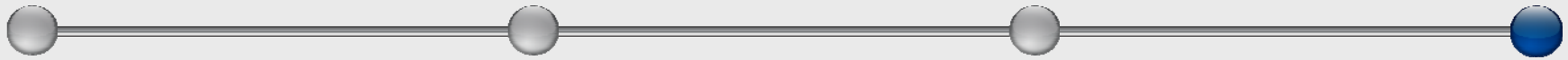
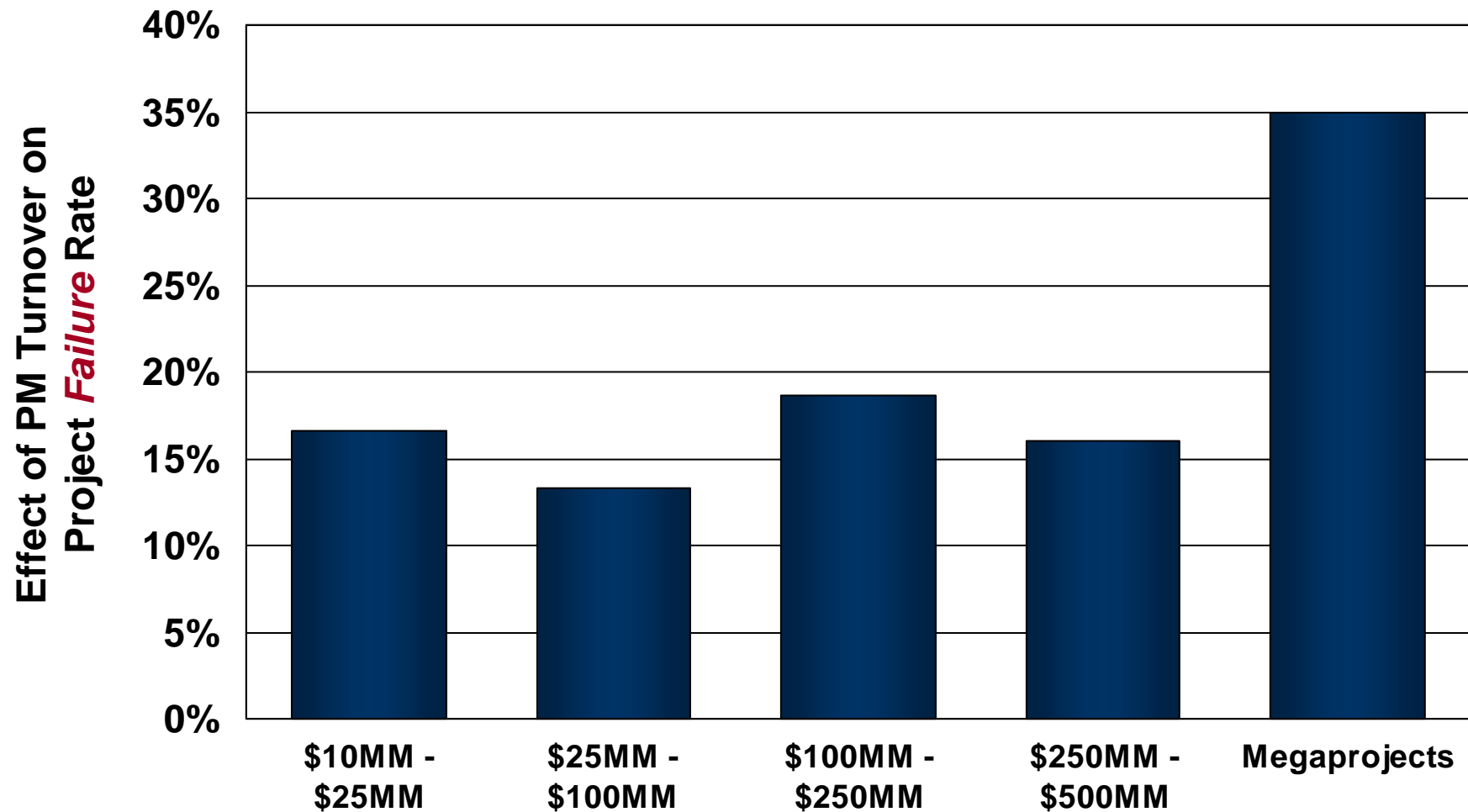
Source: *Industrial Megaprojects, op. cit.*



FEL Is Most Important for Megaprojects

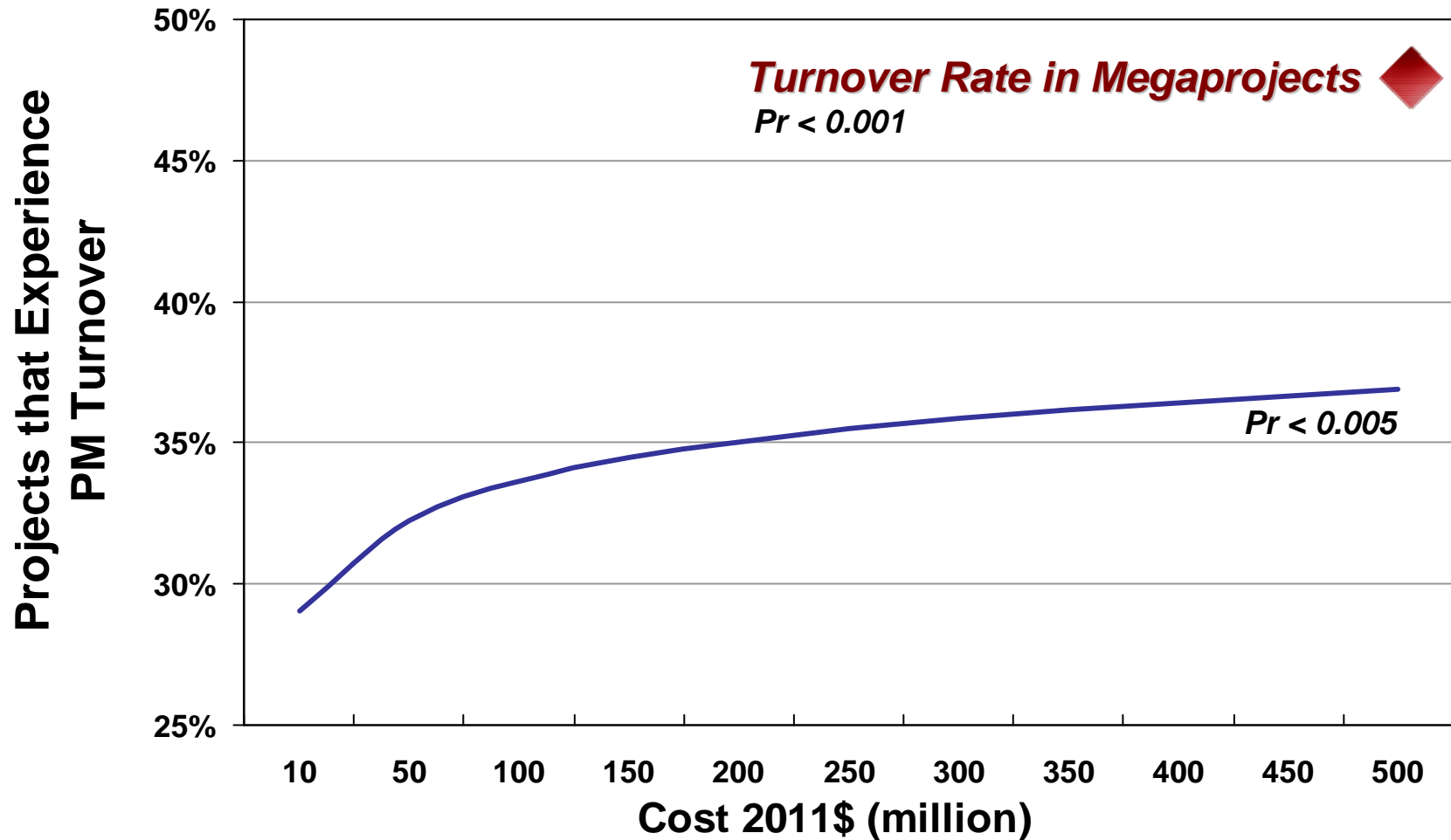


Turnover of the Project Leader Hurts All Projects *But It Destroys Megaprojects*



Stability In Owner Team Leadership

Larger Projects Experience More Frequent Project Manager Turnovers



Note: Controlling for Execution Schedule Index



Stability In Owner Team Leadership



The Effects of Practices Increase with Project Size









- **Large projects are very sensitive to practices because they are more complex**
- **Much more difficult to “work around” surprises because so much more has to be coordinated**
- **All of this is well known**
- **Therefore, logic would suggest that larger projects systematically follow better practices than smaller ones**



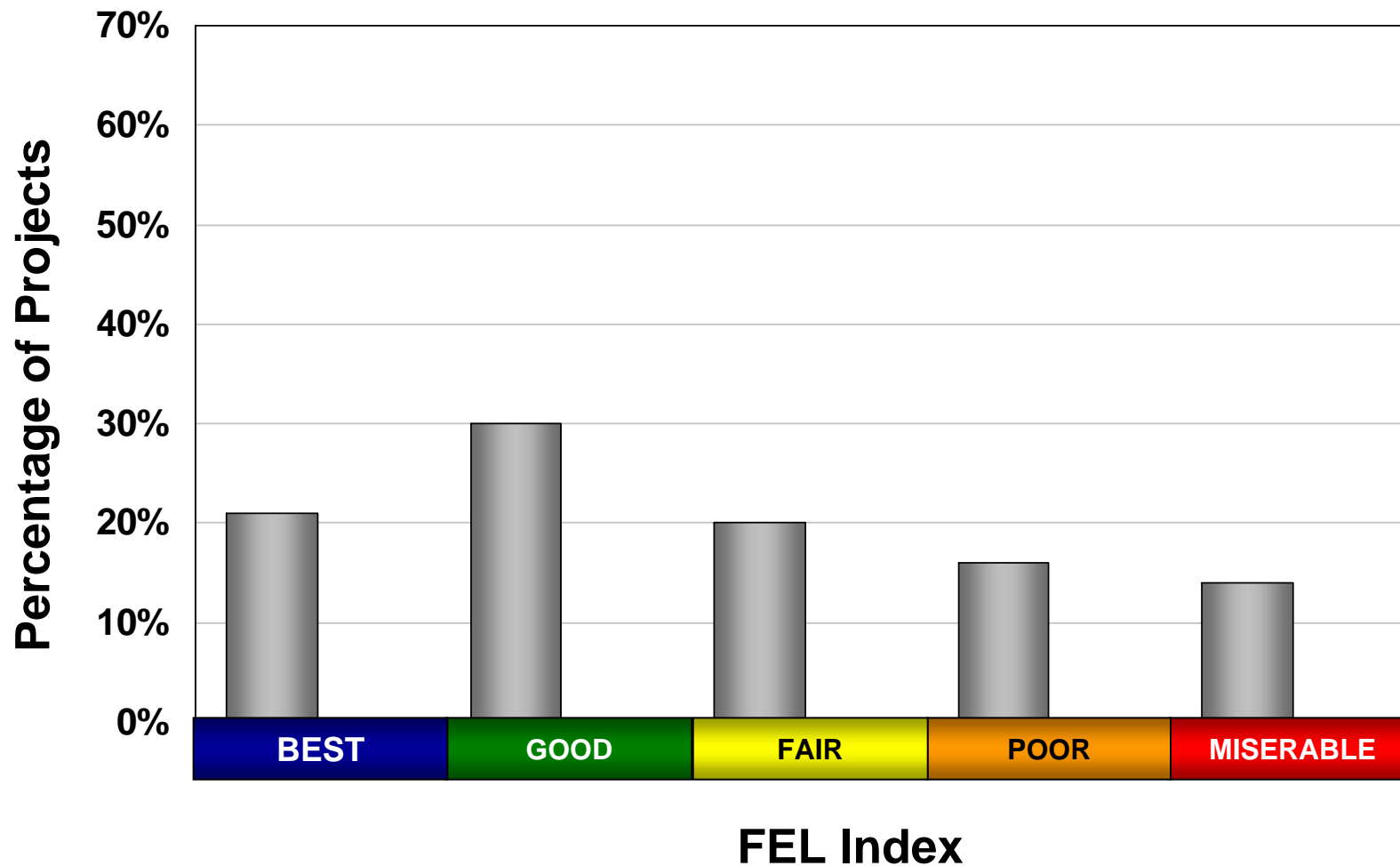
Practices Actually Degrade with Size

- **One megaproject team in five admits it does not understand the business objectives versus one in ten for smaller projects**
- **Megaproject teams are much more likely to report being confused about trade-offs among outcomes**
- **Team integration is much poorer for megaprojects (*55 percent*) than projects under \$900 million (*74 percent*)**
- **FEL completeness actually declines as projects get large**
- **Turnover increases**

Most FEL Elements Degrade as Size Increases

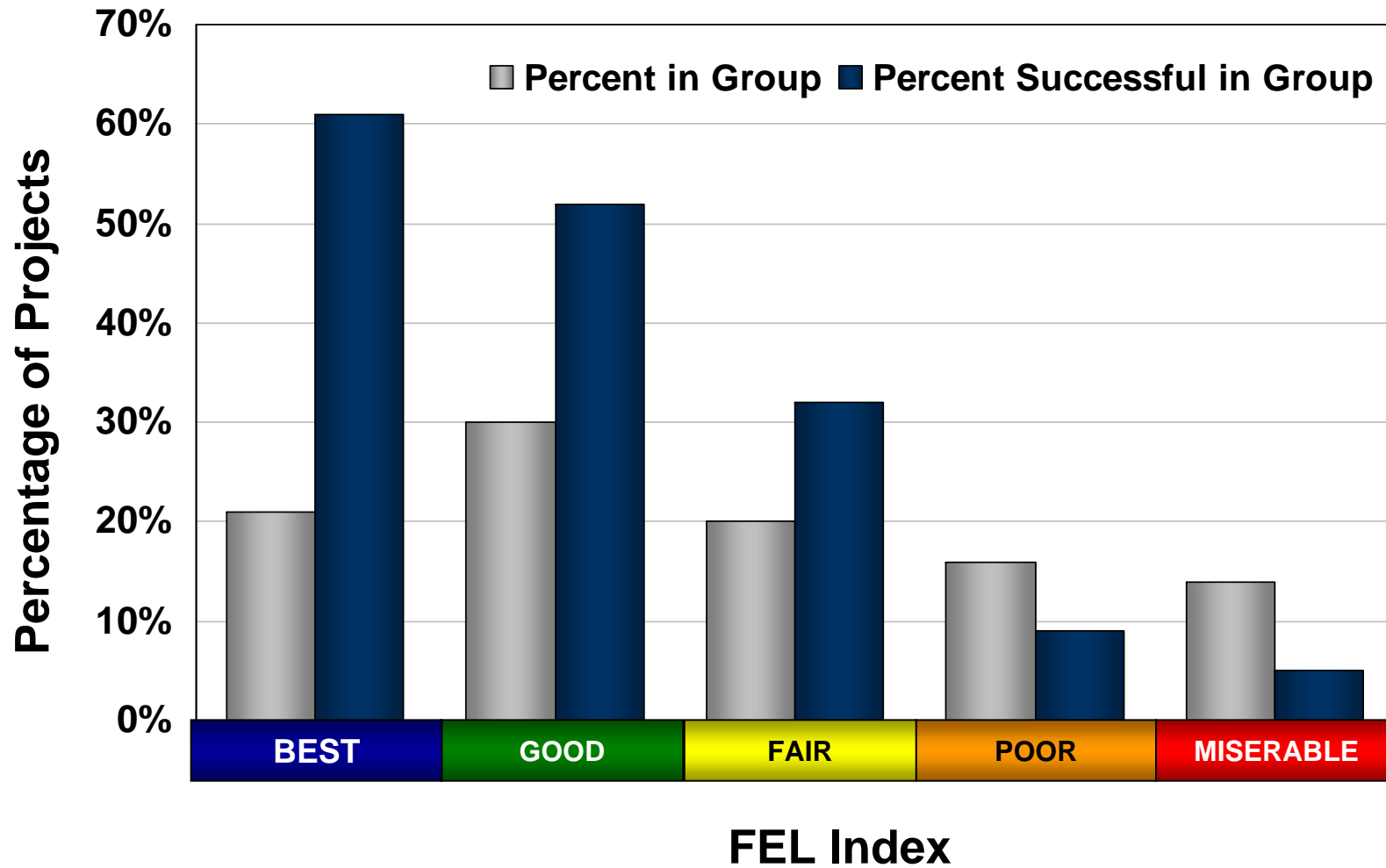
Element of Definition	Change with Project Size
Labor Availability Definition	 Degrades
Labor Productivity Definition	 Degrades
Local Material Costs	 Degrade
Plot Plans and Arrangements	 Degrade
Permitting	 Degrades
Operational Health and Safety	 Degrades
Execution Planning	 Tends to Improve
Engineering	 Tends to Degrade

How Well Are Megaprojects Defined at Authorization?



Source: *Industrial Megaprojects, op. cit.*

What Difference Does it Make?





Answering the Questions

- **Is Alberta peculiar for having so many large project failures?**

Unfortunately, the answer is “no”. Large industrial projects over the last decade failed almost two-thirds of the time.

- **Why do large projects fail so often?**

Large projects are extremely sensitive to poor practices. And the practices we follow on large projects tend to be poor.

- **Who can fix the problems? (Who is to blame!)**



Who Is to Blame!

- **The key practices that cause megaproject failure are:**
 - 1 Unclear business objectives and tradeoffs**
 - 2 Failure to fully staff the owner team**
 - 3 Poor front-end loading**
 - 4 Excessive turnover of owner staff**
- **All of these key practices are the responsibility of the owners**
- **Perhaps we should start and end the search for scapegoats with the morning mirror!**

INDEPENDENT PROJECT ANALYSIS



Thank you!

Contact information: emerrow@ipaglobal.com

COAA Best Practices Conference: The Alberta Macro Economy and Cost Competitiveness

June 17, 2011

Shaw Conference Centre

Dr. Mike Percy

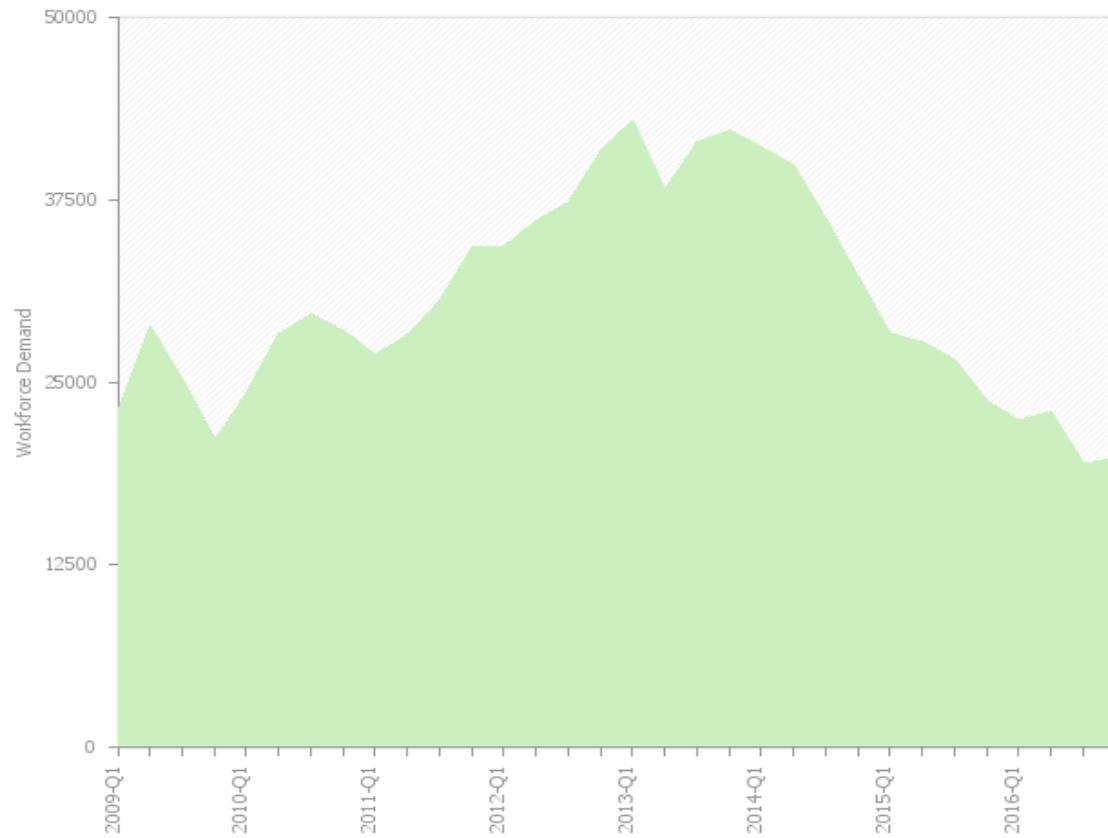
Will 2012-14 Be Any Different?

- The cost pressures and inflationary spiral anticipated with the capital investment surge in 2012-14 likely to exceed those of 2005-08


Workforce by Project

Quarterly Workforce

Aggregate Graph (Major Industrial Projects)



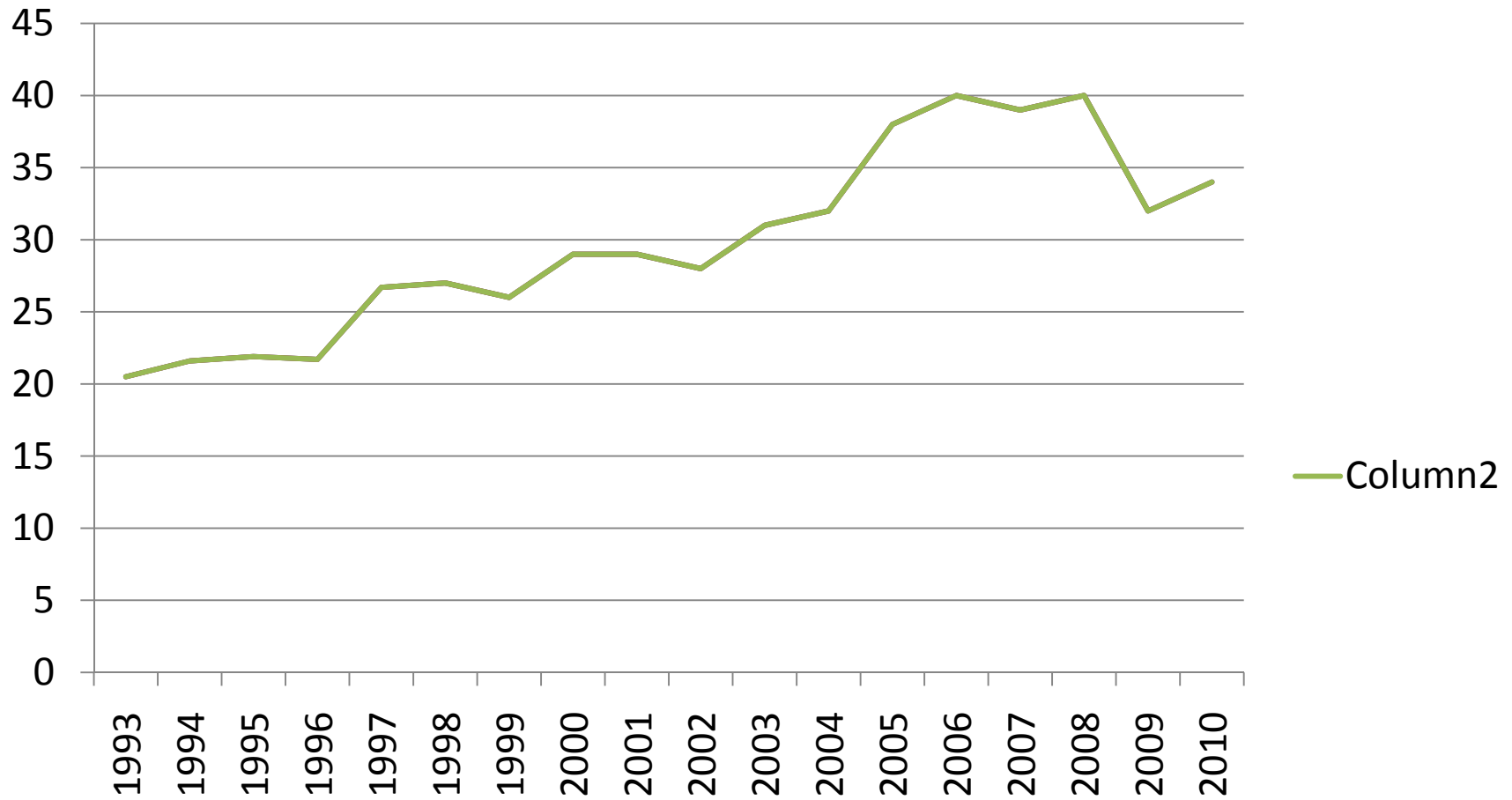
Legend

 All Projects

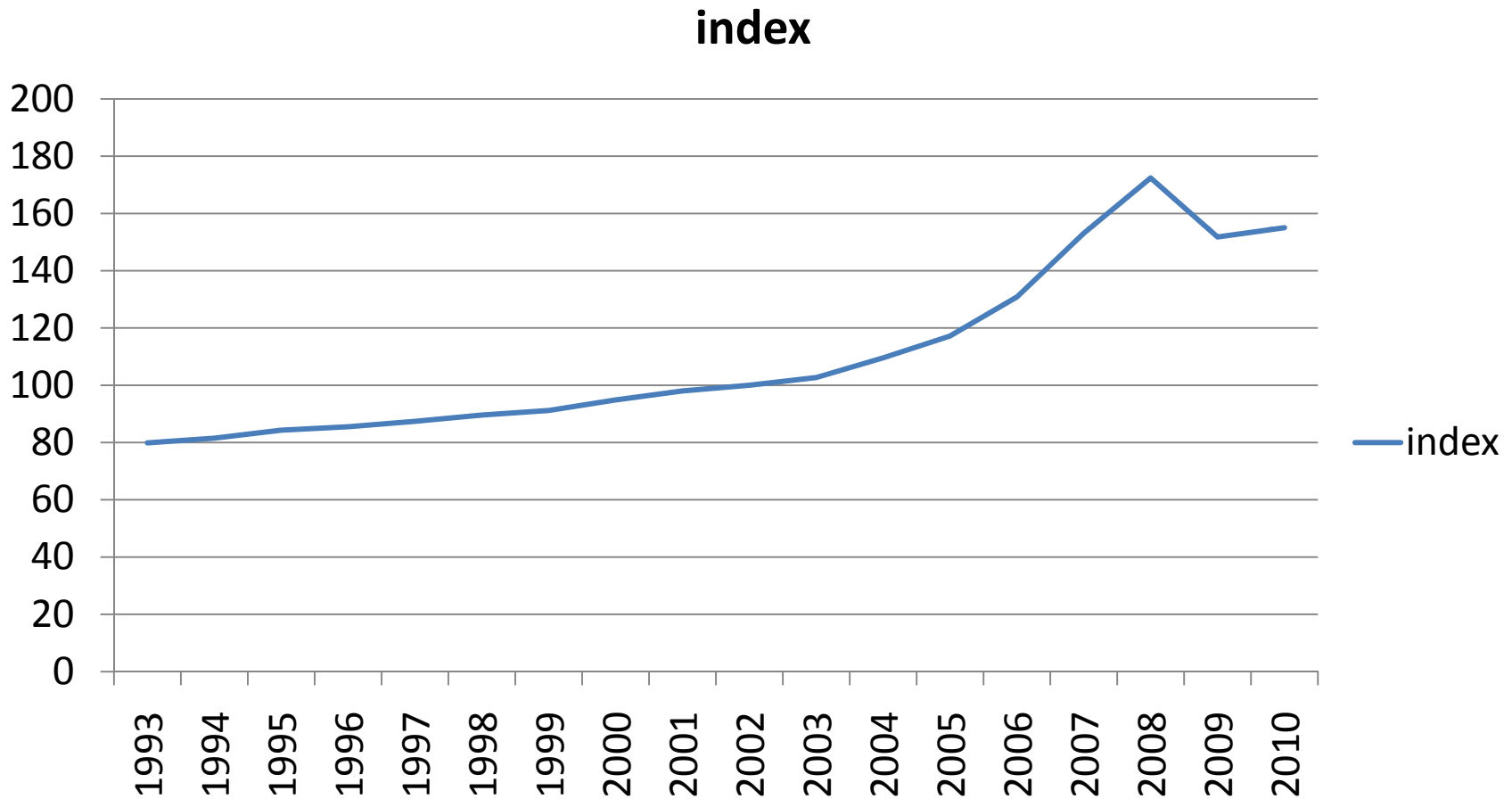
The Dynamics of Sector Booms

- In regional economies it is more than just the “Dutch Disease” during a boom
 - Positive effects from appreciation of CDN dollar by Asian demand for commodities
 - Negative effects from regional price level adjustments

Capital Investment as Share of Alberta Real GDP (\$2002)



Price Index of Non-Residential Building Construction – Edmonton CMA



Consumer Price Index Alberta (2002 = 100)

	All Items	shelter
• 2006	112.3	124.8
• 2007	117.9	140.0
• 2008	121.6	151.1
• 2009	121.5	147.4
• 2010	122.7	147.6

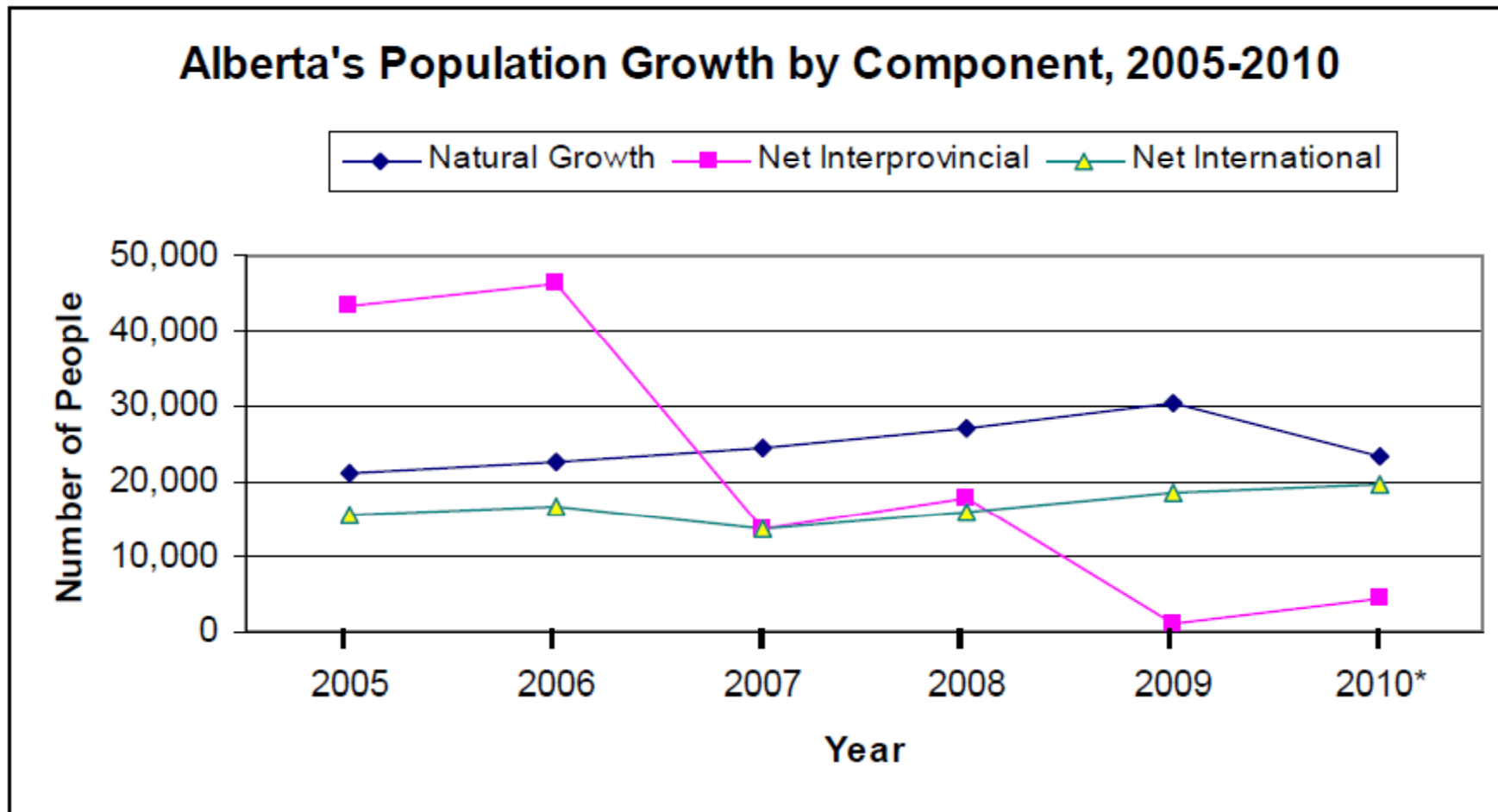
Relative Wages: Alberta/Canada

(average hourly earnings \$ for employees paid by the hour inclusive of overtime)

	Alberta	Canada	ratio
• 2002	23.9	22.0	1.09
• 2003	24.4	22.3	1.09
• 2004	24.2	22.3	1.09
• 2005	25.6	23.1	1.11
• 2006	26.9	23.8	1.13
• 2007	28.1	24.6	1.14
• 2008	30.6	26.5	1.15
• 2009	31.5	27.3	1.15
• 2010	32.6	28.0	1.16

Alberta

Components of Population Growth, 2005 - 2010



* Figures for 2010 are based on the first three quarters only

Data Source: Statistics Canada.

Prepared by: Alberta Finance and Enterprise, Economics, Demography
and Public Finance, December 22, 2010

Government of Alberta
Employment and Immigrat

Why Worse than 2005 – 08?

- Responsiveness of interprovincial migrant flows
- Intensity of boom – at peak 20% higher than earlier boom?
- Greater competition for skilled trades
 - Globally -Australian recruiters
 - Competing projects across Canada and in Alberta
 - Demands by operating oilsands plants
- Potential for increase in general inflation over and above factors specific to Alberta

Why Worse than 2005 - 08

- Private and public investment intentions in 2011
 - Total for Canada \$349 billion
 - Mining, oil and gas extraction \$53 billion
 - Alberta public and private -\$73.5 billion
- Edmonton CMA experienced the largest year over year (Q1-10 to Q1-11) increase in the non-residential construction building index of all CMAs at 5.5%

Mitigating Factors

- Lessons learned from 2005 -2008 by firms
 - Off-shoring
 - More comprehensive engineering
 - Modular approach
 - Staged construction
- Role of China?
- Provincial capital expenditures more countercyclical....?
- Role of Boards of Directors

The background of the slide is a silhouette of a construction site at dusk or dawn. Several construction workers are visible, working on a structure. A large crane is prominent in the center, and various steel beams and scaffolding are scattered throughout the scene. The sky is a warm, hazy orange color.

Construction Owners Association of Alberta Best Practices Conference XIX May 17 & 18, 2011



Safety

John Gerez

Chair, Safety Committee

Vice President, International
Enbridge Pipelines Inc.





Vision Statement for Safety:

No one gets hurt in heavy industrial construction

COAA Safety Committee mandate:
The Safety Committee members will work collaboratively to improve overall safety culture and performance in the Construction Industry.



Question # 1: Are we OK?

Current industrial construction safety performance is satisfactory:

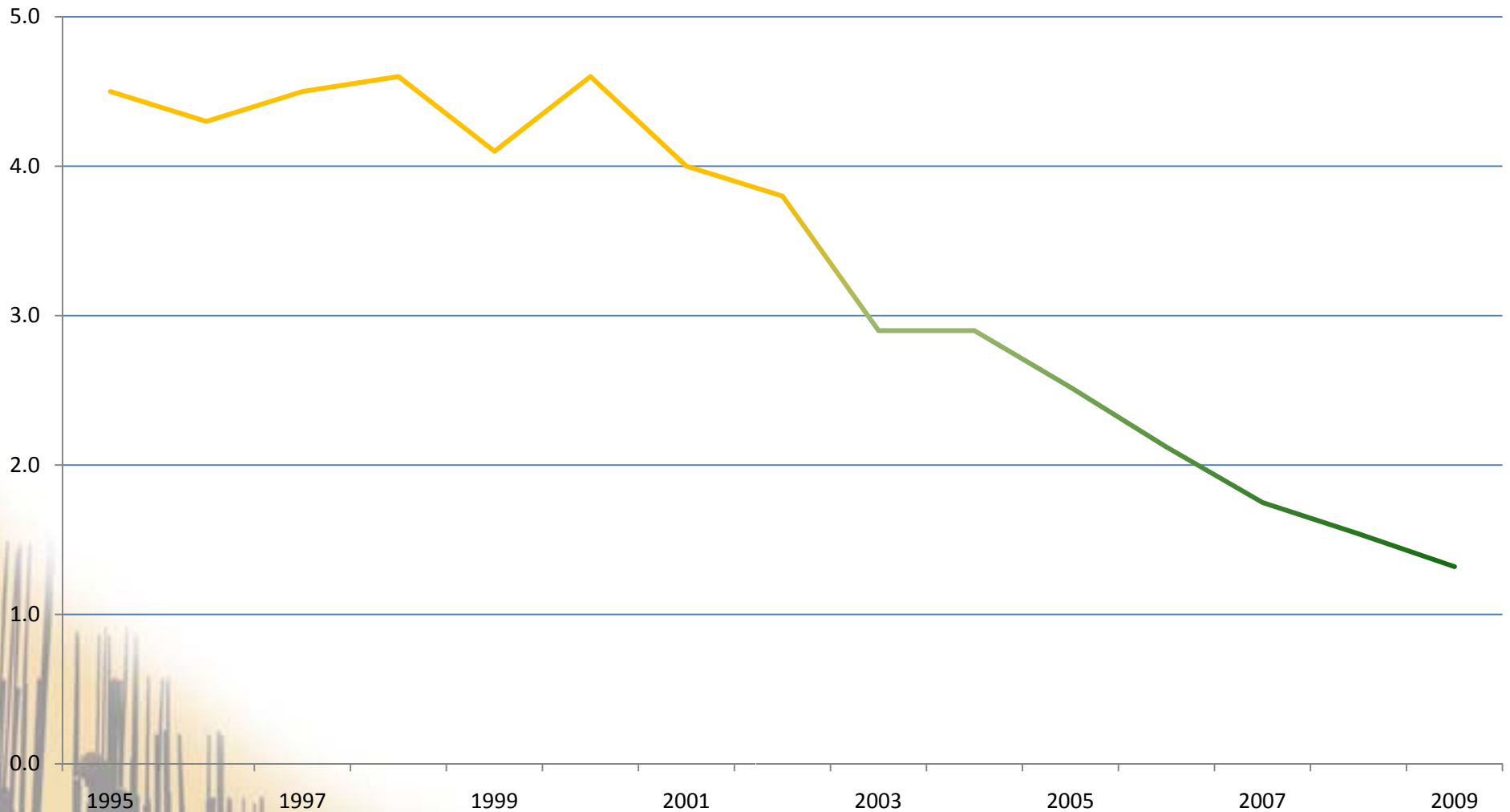
- a. strongly agree**
- b. agree**
- c. disagree**
- d. strongly disagree**





LTC Rate

Alberta Heavy Industrial Construction





Industrial Construction- Positive Trend Continues

Between 2008 and 2009, LTC rate decreased by 14.2%-
lowest LTC rate in ACSA sectors

Between 2005 and 2009, LTC rate decreased by 47.6%,
largest decrease in ACSA sectors

Overall ACSA fatality rate decreased by 22%

But....

Overall fatalities up again 9% in 2010

Occupational health still an issue

ACSA fatality rate still over 2 X provincial average

*Note: ACSA = Alberta Construction Safety Association
LTC rate= Lost Time Claim rate*

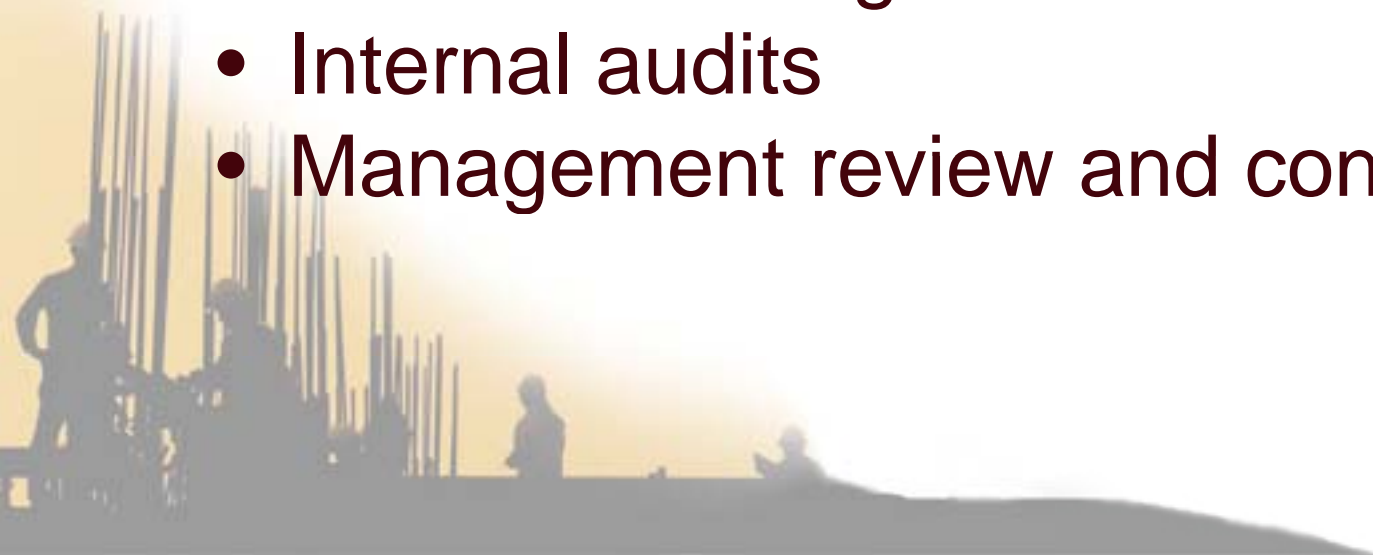
Elements of safety

- Management Commitment and leadership
- Legal and other requirements
- Hazard and Risk Identification and assessment
- Objectives and targets
- Preventative and protective measures
- Emergency Preparedness and response
- Competence and training



Elements of safety

- Communication and awareness
- Procurement and contracting
- Management of change and documentation
- Monitoring and measurement
- Incident investigation and analysis
- Internal audits
- Management review and continual improve





COAA Best Safety Practices

- Behavioral Based Safety
- Canadian Model for Providing a Safe Workplace
- Construction Safety Training System
- Contractor EHS Management
- Field Level Risk Assessment
- Leading Indicators
- Modified Work Programs
- Owner's Guide to Contractor Health and Safety
- Workers at Risk- Mentoring
- Incident Investigation



Question # 2: Who should influence?

Who should most influence safety performance on Alberta industrial worksites?

- a. owners**
- b. prime contractors**
- c. employers**
- d. government**
- e. labour providers**
- f. workers themselves**



Accomplishments in 2010

- Incident Investigation Best Practice
 - Serious Incident Reporting and Investigation Guideline
- CSTS – Revised Version- shorter and sweeter
- Canadian Model- revisions and updates
- Safety Performance Improvement Best Practice
- Worker Competency Verification Best Practice



Question # 3: How to measure?

The best way to measure and improve safety performance is by measuring

- a. lost time incidents**
- b. all recordable incidents**
- c. fatalities**
- d. incident severity**
- e. near misses**
- f. leading indicators**



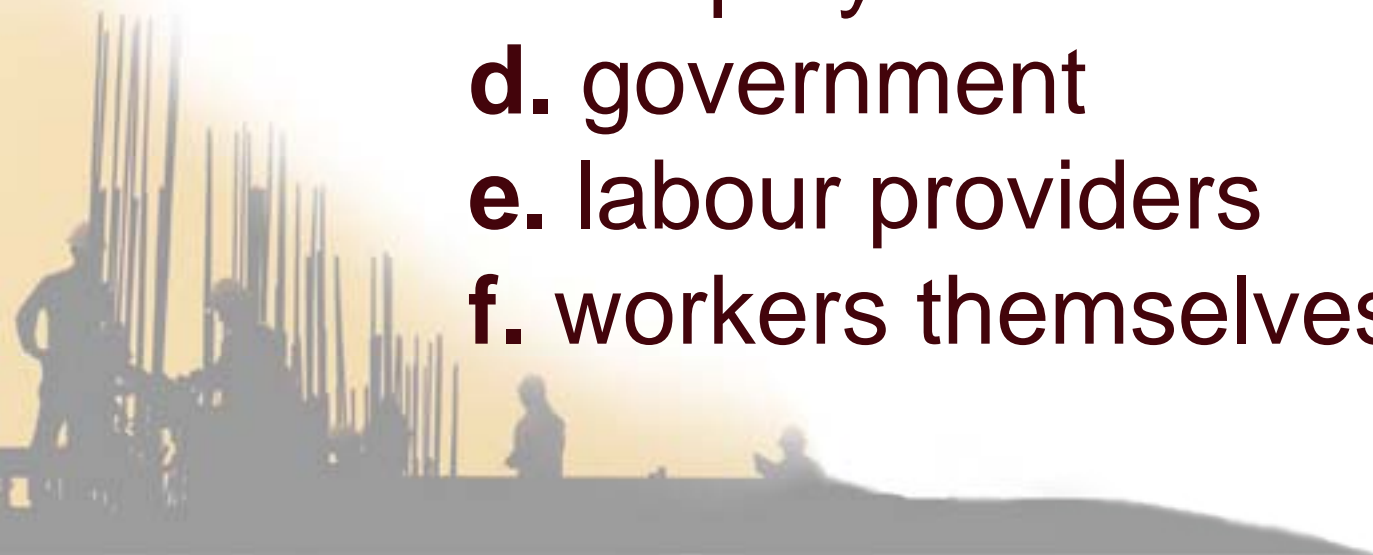
Safety Performance Improvement Best Practice

- What you measure you will change-need to measure the right things
- Success measured by indicators
- Leading and lagging indicators
 - Leading indicators aligned with best practices
- Tailor indicators to your company and your job
- Measure baseline and set attainable goals
- All stakeholders need to be onside
- Complementary to existing best practice

Question # 4: Competency – whose job?

**Who is responsible to ensure
worker competency?**

- a. owners**
- b. prime contractors**
- c. employers**
- d. government**
- e. labour providers**
- f. workers themselves**





Best Practice

Worker Competency Verification

- OHS Definition : *“competent” means adequately qualified, suitably trained and with sufficient experience to safely perform work without supervision or with only a minimal degree of supervision*
- OH&S Code requires employers to provide competent workers
- Competency Verification: Qualifications, training, experience, practical

Question # 5: Trick question

The most important reason to conduct an internal investigation after a serious accident is:

- a.** it's required by law
- b.** it's required by internal procedures
- c.** to help understand the accident and prevent recurrence
- d.** to demonstrate company and individual due diligence
- e.** to determine compliance with OHS legislation





New Best Practice Serious Incident Reporting and Investigation Guideline

- User's guide to help understand what may occur and help guide actions during an industrial incident investigation involving government officials
- Focus is on the process steps that occur once an OHS reportable incident happens, up to and including the completion of the government investigation.
- Benefits

Question # 6: Influence the future

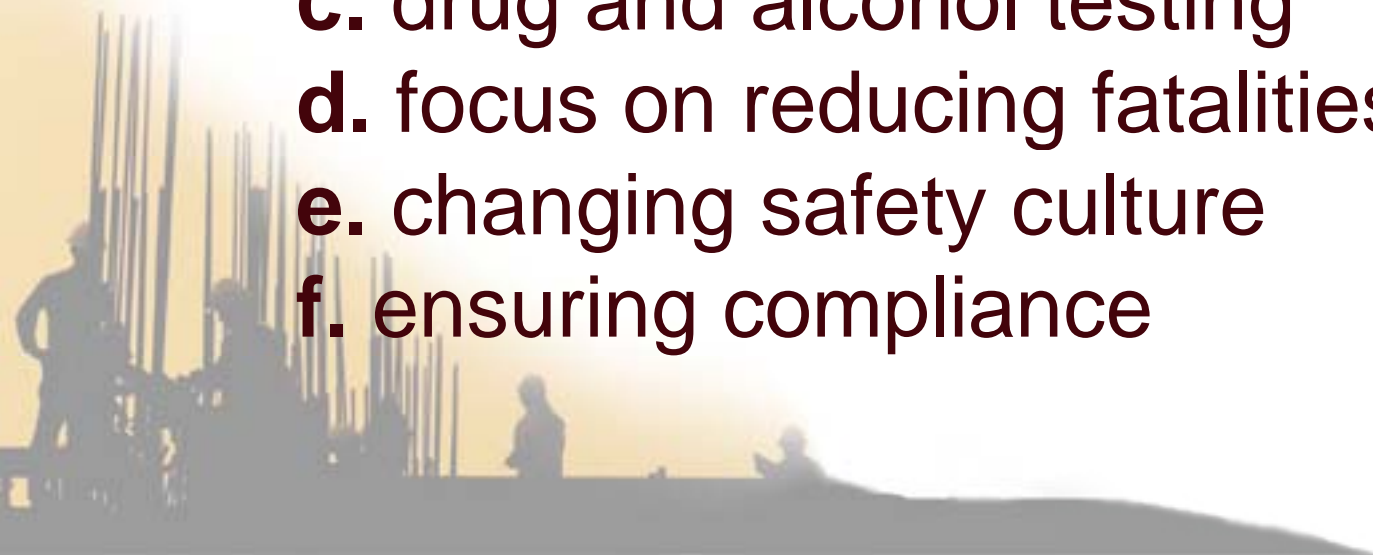
The most important priority for improving workplace safety is:

- a. clear, easy to use safety tools and activities**
- b. strong leadership roles and activities**
- c. enforcement of existing standards and processes**
- d. new or improved safety practices and standards**
- e. improved worker skills, knowledge and competencies**

Question # 7: Low hanging fruit?

Going forward, the biggest single opportunity for a step change in safety performance is:

- a. strong management commitment**
- b. reduce cost/schedule pressures**
- c. drug and alcohol testing**
- d. focus on reducing fatalities**
- e. changing safety culture**
- f. ensuring compliance**





Keys to Safety Success

- Commitment
- Culture
- Continuous improvement





Safety Workshops Today

- Canadian Model – version 2 –
Session 1 (12:45-2:15) & Session 2
(2:30-4:00)
- Safety Performance Improvement-
Session 1 (12:45-2:15)
- Worker Competency Verification-
Session 2 (2:30-4:00)





**Thanks to our volunteers-
Please join our
Committee!**

Questions?



The background of the slide is a silhouette of a construction site at dusk or dawn. Several construction workers are visible in various poses, some standing and some bending over. A large crane is prominent in the center, and the sky is a soft, hazy yellow. The overall scene is in grayscale, with the workers and structures appearing as dark shapes against the lighter sky.

Construction Owners Association of Alberta Best Practices Conference XIX May 17 & 18, 2011



Workforce Development

Stephen Kushner

Co-Chair, Workforce Development
Committee

President

Merit Contractors Association





Workforce Development Committee

Mission Statement

The construction industry has access to a workforce with

- **The right skills**
- **In the right mix**
- **At the right time**
- **In the right numbers**



COAA Best Practices Work Force Development

- Provide an overview of current Work Force Development Committee/Sub Committee activities
- Review highlights from COAA paper on Work Force issues
- Identify potential new Sub Committees - focus for upcoming year



Current Activities

➤ **Workforce Forecasting:**

- Herb Holmes will provide full update on this year's forecast.

➤ **Supervisory Training and Qualifications:**

- Focus on the new Industrial Crew Supervisor Designation and promotion efforts with the “Fuel Your Career” web site.
- Today's workshop includes:
 - Changes to ICCS designation
 - CSC updates on supervision
 - DON'T TAKE YES FOR AN ANSWER -tips for bridging a language gap

➤ **Respect in the Workplace:**

- Work revising the tool kit.
- The Best Practice session today will focus on the new roll-out of the tool kit.
- Continued focus on training sessions so that more firms are able to ensure their work sites are more respectful.
- Future focus is to encourage Owners, through the pre-qualification process, to ask contractors how they are ensuring they are creating a “Worksite Culture of Respect”!



- **Opportunities for Women in Construction**
 - New employer guide and training component has been developed and is now available.
 - Workshop will feature the guide and it will soon be finalized based on feedback at the workshops.
 - The final version of the Guide will be released in September.





➤ **Absenteeism**

- Phase 1 completed in 2009.
- Phase 2 questionnaire significantly improved, but project has stalled due to owner and contractor support
- Without more data collection sites the study is in jeopardy. Still opportunities to volunteer (contact Roland Labossiere @ Suncor
- In the mean time, U of A is providing the database complete with User Manual
 - **July 14 computer workshop on the Absenteeism Tracking Tool**



COAA Paper on Workforce Challenges

- Canadian shortfall of 160,000 construction workers between 2011-2019.
- Up to 40,000 worker shortfall for Alberta.
- Up to 20,000 shortfall for large Oil Sands Projects.
- There are no quick fix solutions and focus of efforts to meet needs involve all stakeholders including:
 - Provincial and Federal Government
 - Owners
 - Contractors
 - Labour Providers



COAA Paper on Workforce Challenges Recommendations in three Areas

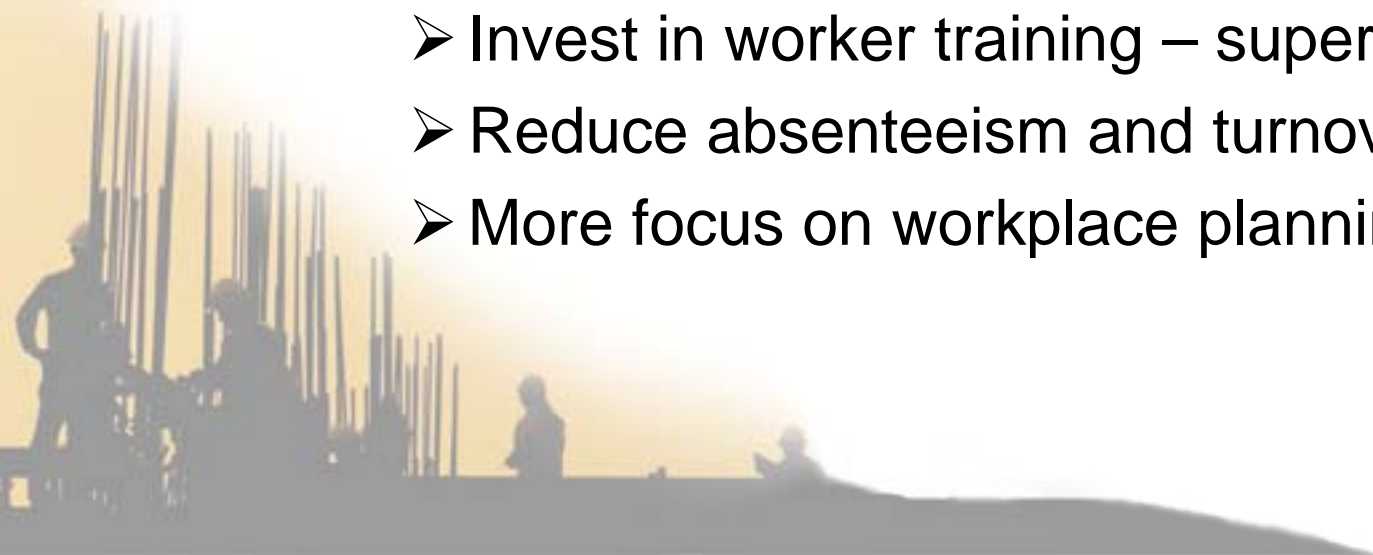
(1) Develop Long Term Vision and Monitor Progress:

- Develop a consensus vision both qualitative and quantitative and update annually.
- Monitor key indicators.
- Improve forecasting.
- Alberta Government to support apprenticeship system growth in seats and facilities.
- Government of Canada to address permanent worker shift via immigration point system.

COAA Paper on Workforce Challenges

(2) Improve Productivity of Existing Workforce:

- Best Practices to improve planning, information flow, fabrication and commissioning of modules.
- Reduce barriers to interprovincial transportation of modules.
- More effective use of apprentices.
- Invest in worker training – supervisor skills.
- Reduce absenteeism and turnover.
- More focus on workplace planning.



COAA Paper on Workforce Challenges

(3) Improve Interprovincial and International Access to Workers:

- Strategies to increase interprovincial movement of skilled workers.
- Improve Temporary Foreign Worker (TFW) program re: expedited Labour Market Opinions, TFW mobility (re: sites, employers, construction and maintenance).
- Multi employer, multi site co-ordination required to maximize foreign worker potential.
- Focus on opportunity with US Gulf Coast and potential availability of workers during slower periods of activities.

Three new Sub-Committees

Immigration Challenges (1):

- Temporary Foreign Workers
- Permanent
- Competing internationally for workers
- Credential recognition challenges
- Citizenship issues
- Mobility once in Canada

- **Goals:**
 - Develop a paper examining challenges/solutions
 - Develop a call-to-action program

New Committee – Need Volunteers!



Skill Development (2):

- Do we need new models in time of skill shortages?
- How can we fast-track apprentice development?
- How can we enhance journeyman skills?
- Are we responding appropriately to technology change?
- Are we focusing on training the right skills we need?
- Are we fully utilizing our retirees?
- Are we positioned to attract the young workers we will need?

New Committee – Need Volunteers!



Attraction / Retention (3):

- How can we reduce turnover?
- Can we develop new guide posts – Best Practices?
- How can we meet expectations of a younger workforce?
- How do we help make Ft. McMurray an attractive destination for young families?
- What does the construction Industry need to do to improve its retention?

New Committee – Need Volunteers!





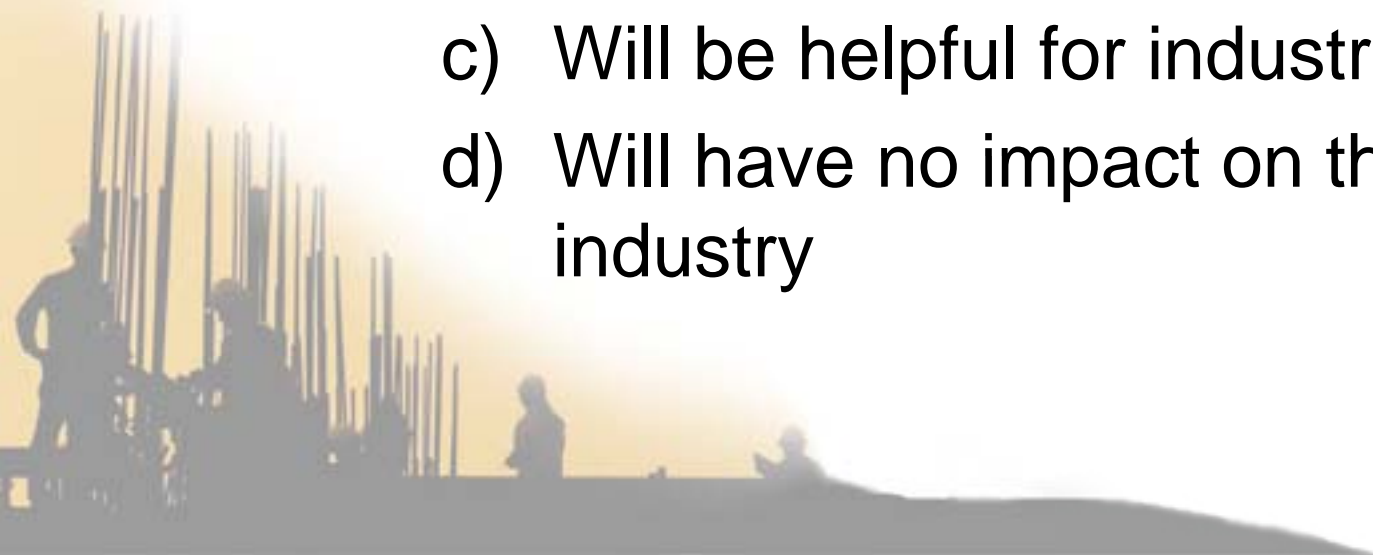
Voting Button Questions



1. **What is your position on immigration as a potential complement to other recruitment strategies to man our future industrial projects?**
 - a) Support both permanent immigration and temporary foreign worker recruitment
 - b) Support only temporary foreign worker recruitment
 - c) Support only permanent immigration recruitment
 - d) Do not support immigration

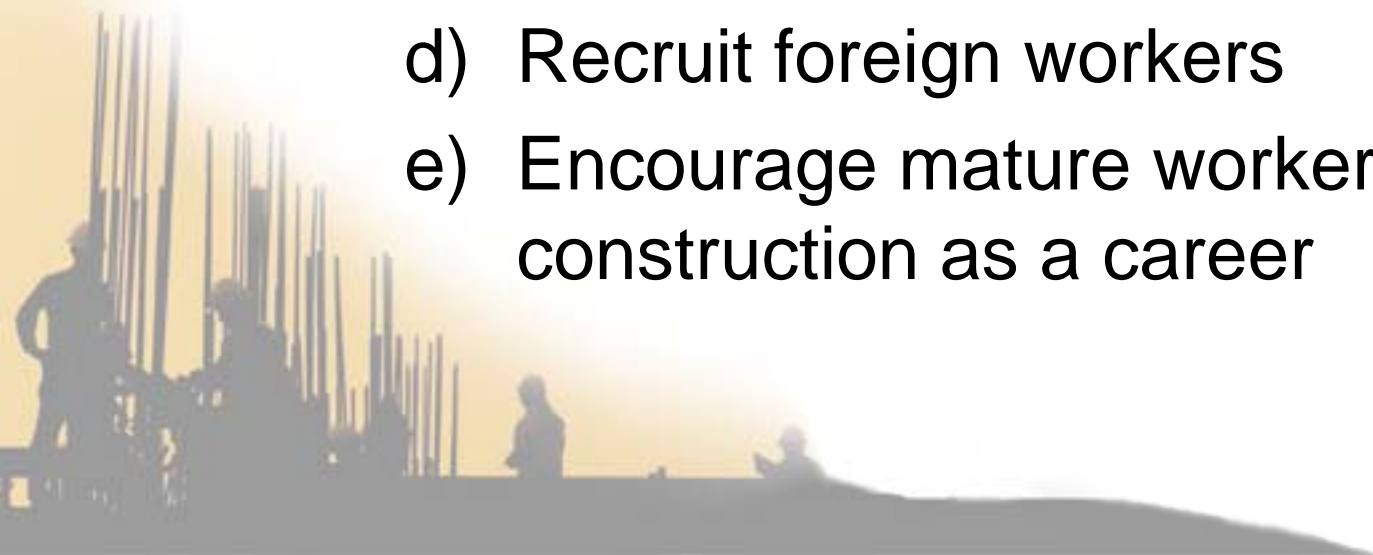
2. The recent changes to apprenticeship ratios where two apprentices can work for each journeyman:

- a) Will be helpful for the entire construction industry
- b) Will be primarily helpful for commercial and/or residential construction
- c) Will be helpful for industrial projects
- d) Will have no impact on the construction industry



3. The biggest impact to lessen future manpower shortages will occur through effective strategies to:

- a) Reduce absenteeism
- b) Recruit young people to the industry
- c) Recruit workers from other regions in Canada
- d) Recruit foreign workers
- e) Encourage mature workers to consider construction as a career



4. To encourage more diversity training I support:

- a) The requirement of diversity training in contractual arrangements
- b) Assessing contractor effectiveness in creating respectful workplaces through the pre-qualification processes
- c) Purchasers leading by example in their workplace and communities
- d) Industry developing initiatives and implement diversity solutions on a voluntary basis

The background of the slide is a silhouette of a construction site at dusk or dawn. Several construction workers are visible, working on a structure. A large crane is prominent in the center, and various steel beams and rebar structures are scattered across the scene. The sky is a warm, hazy orange color.

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Workforce Demand Forecast

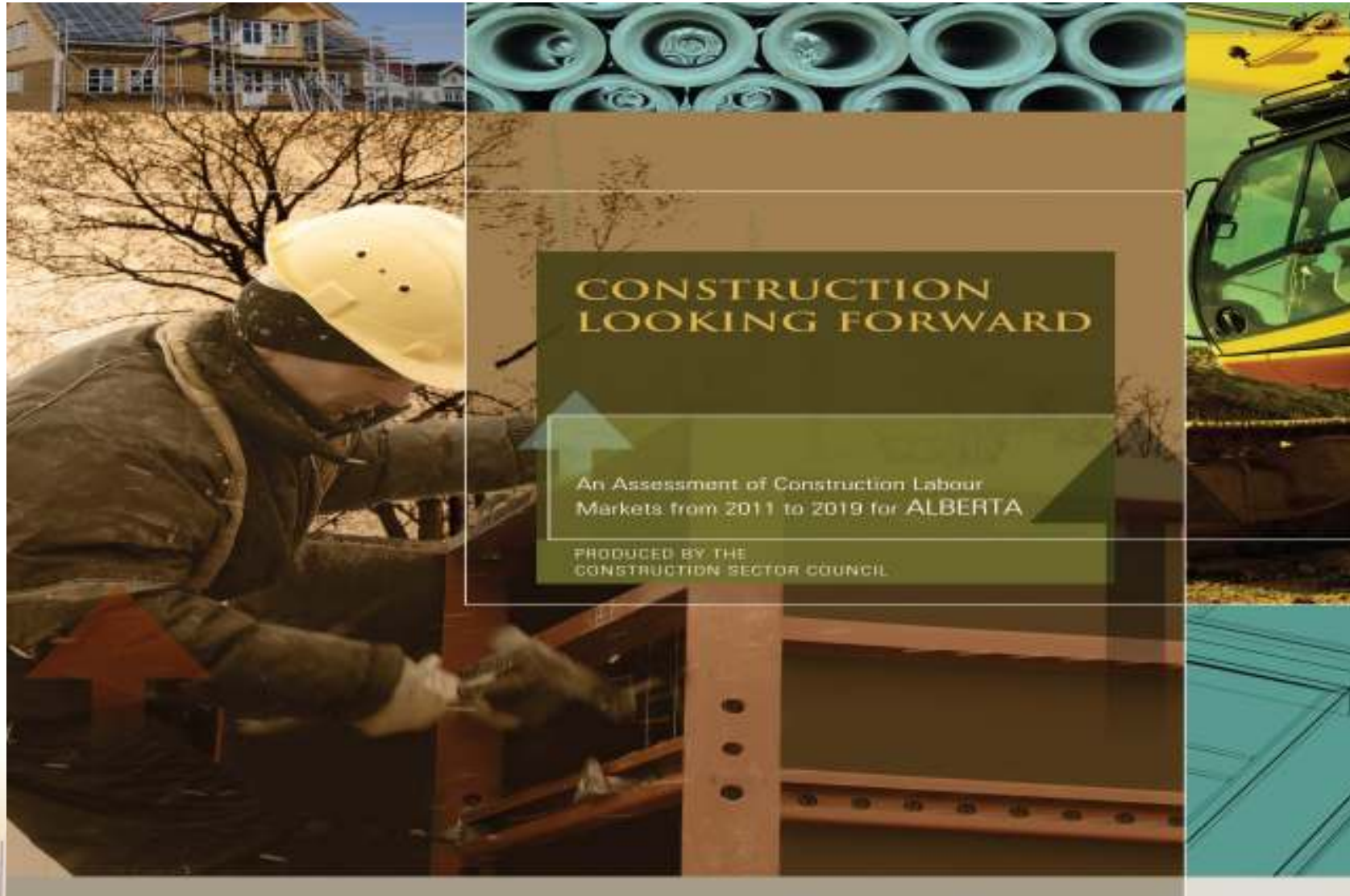
Herb Holmes

Chair, Workforce Demand Forecast
Committee

Labour Relations Representative
Construction Labour Relations - Alberta

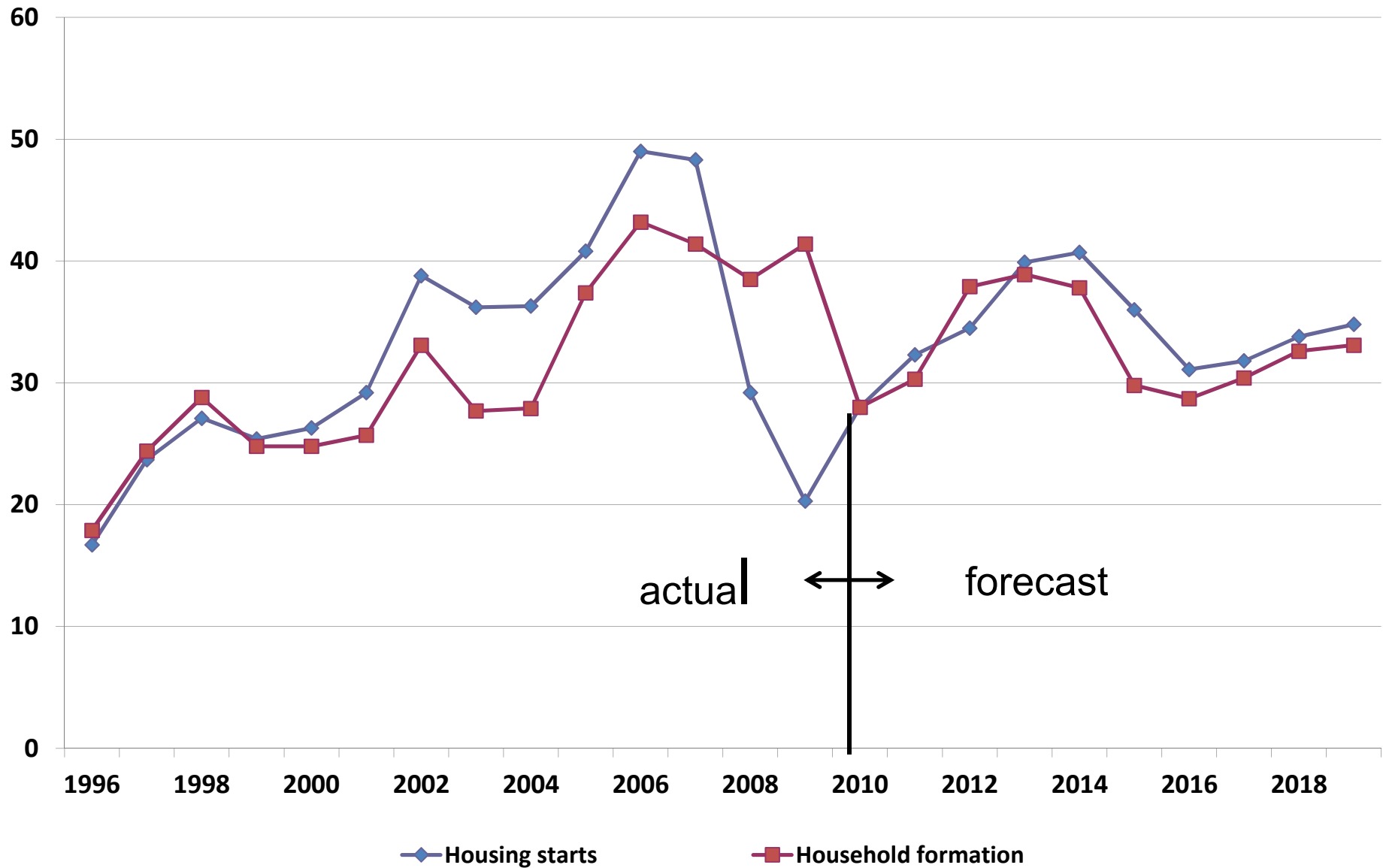


Forecast 2011



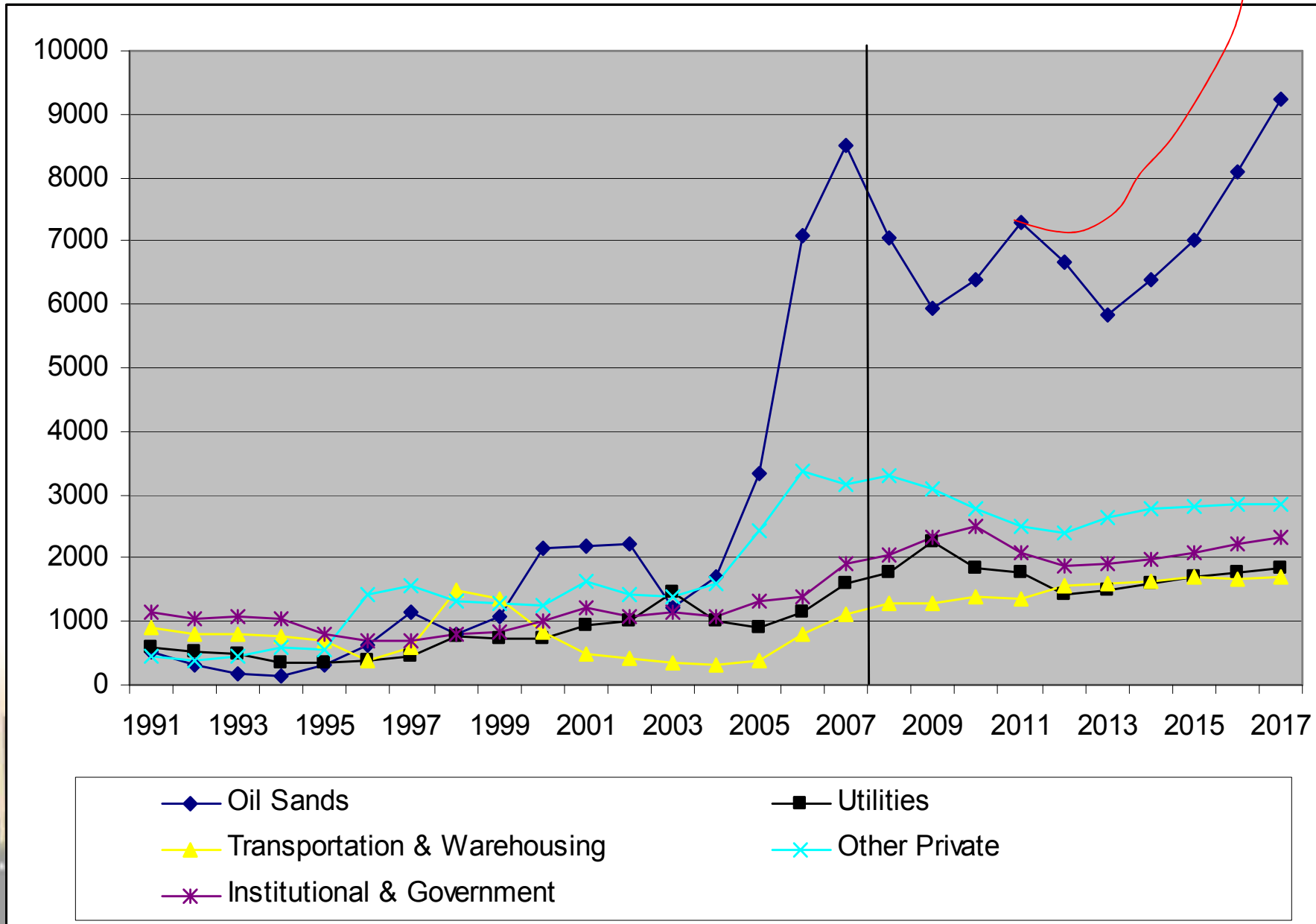


COAA
Construction Owners
Association of Alberta

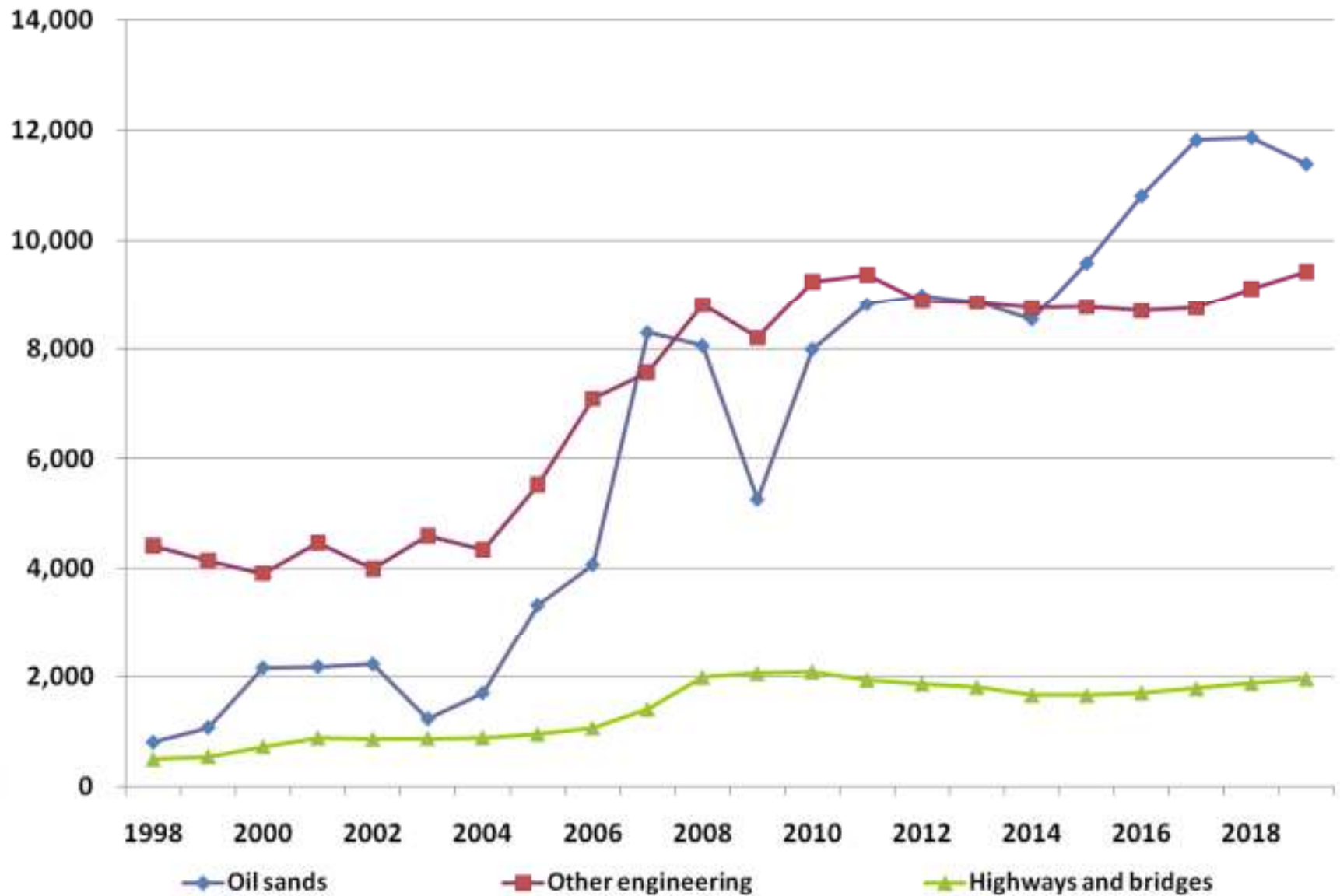




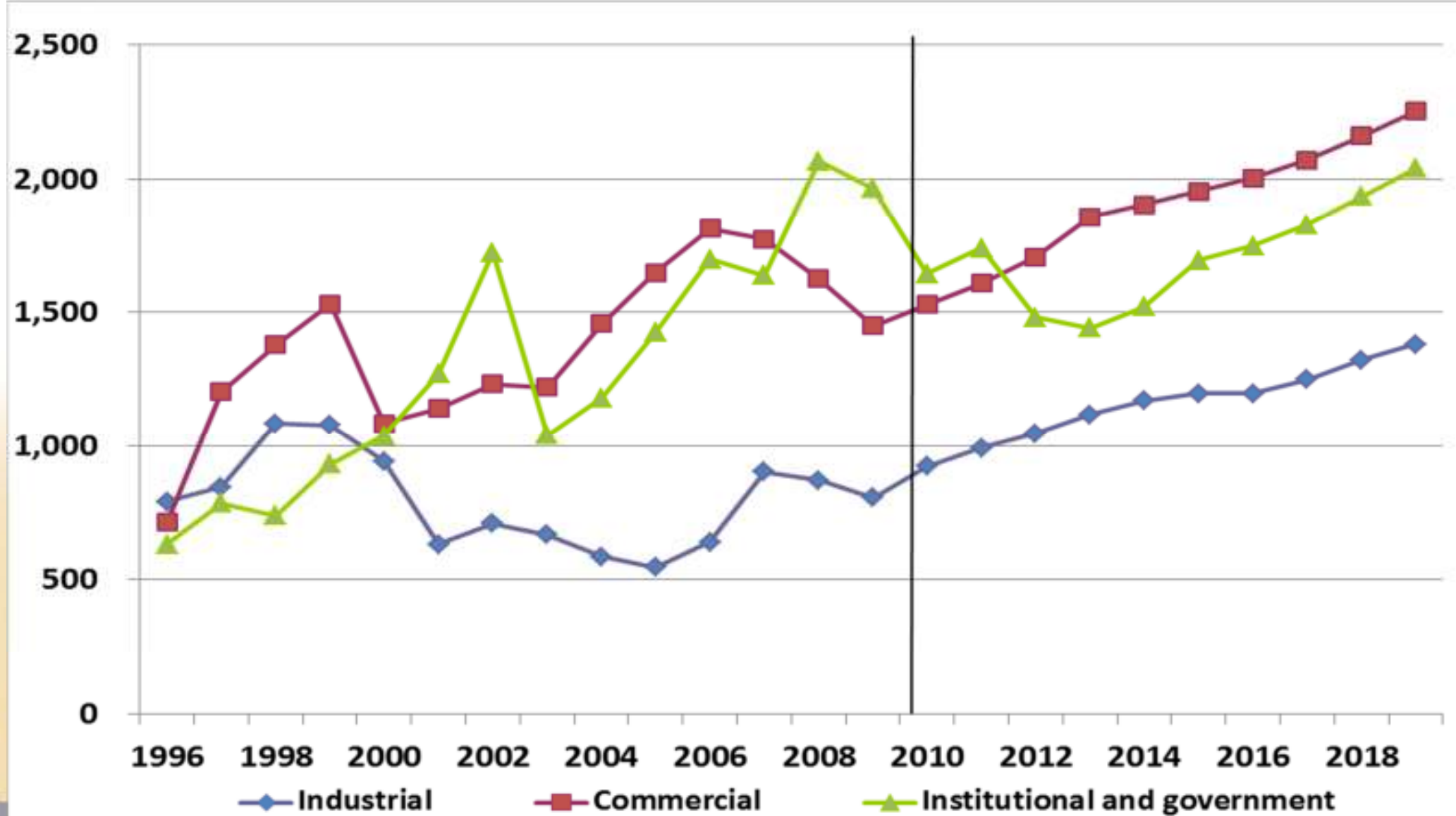
COAA
Construction Owners
Association of Alberta



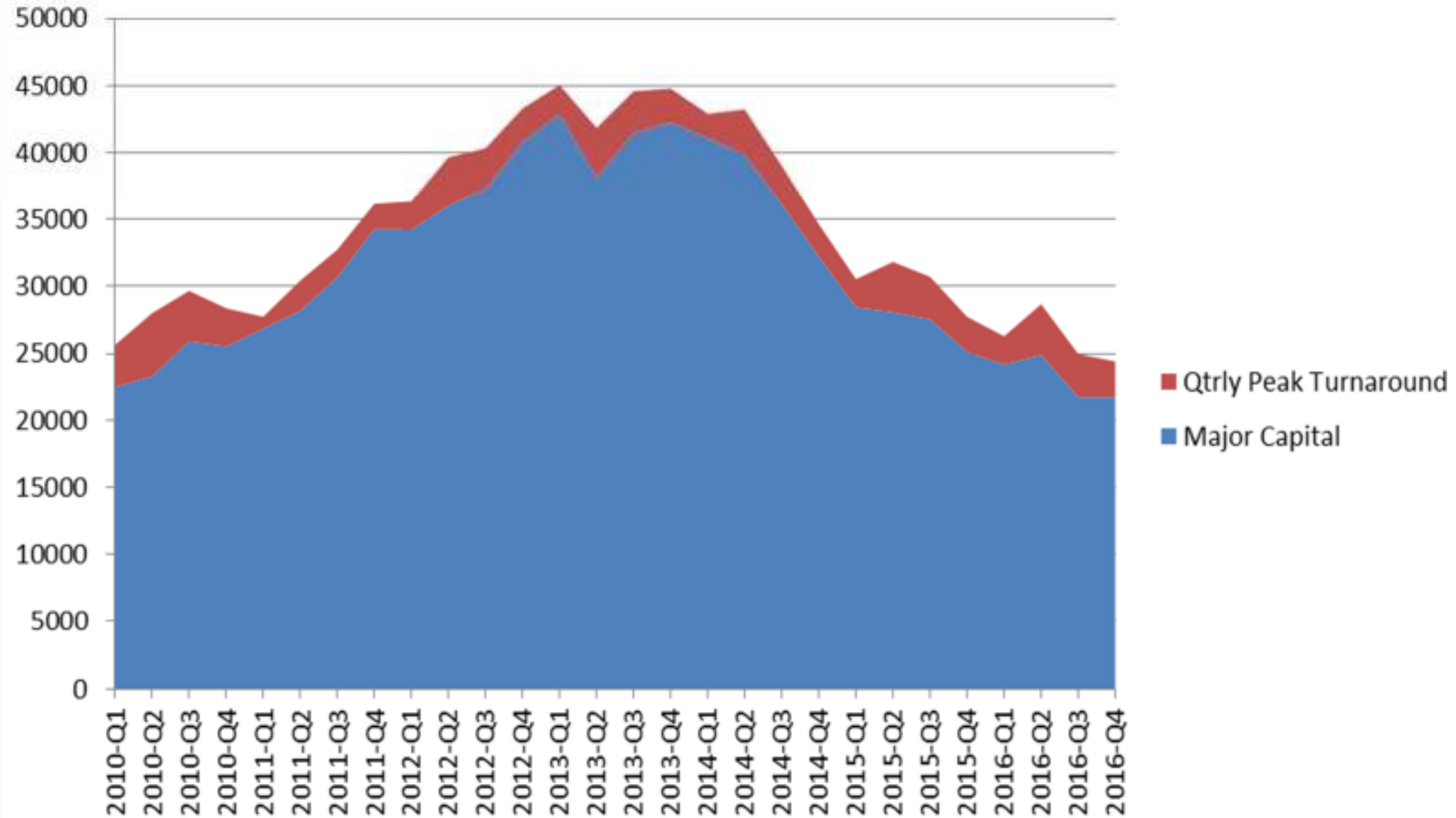
Oilsands and Major Engineering Construction Investment



Other Non-Residential Construction



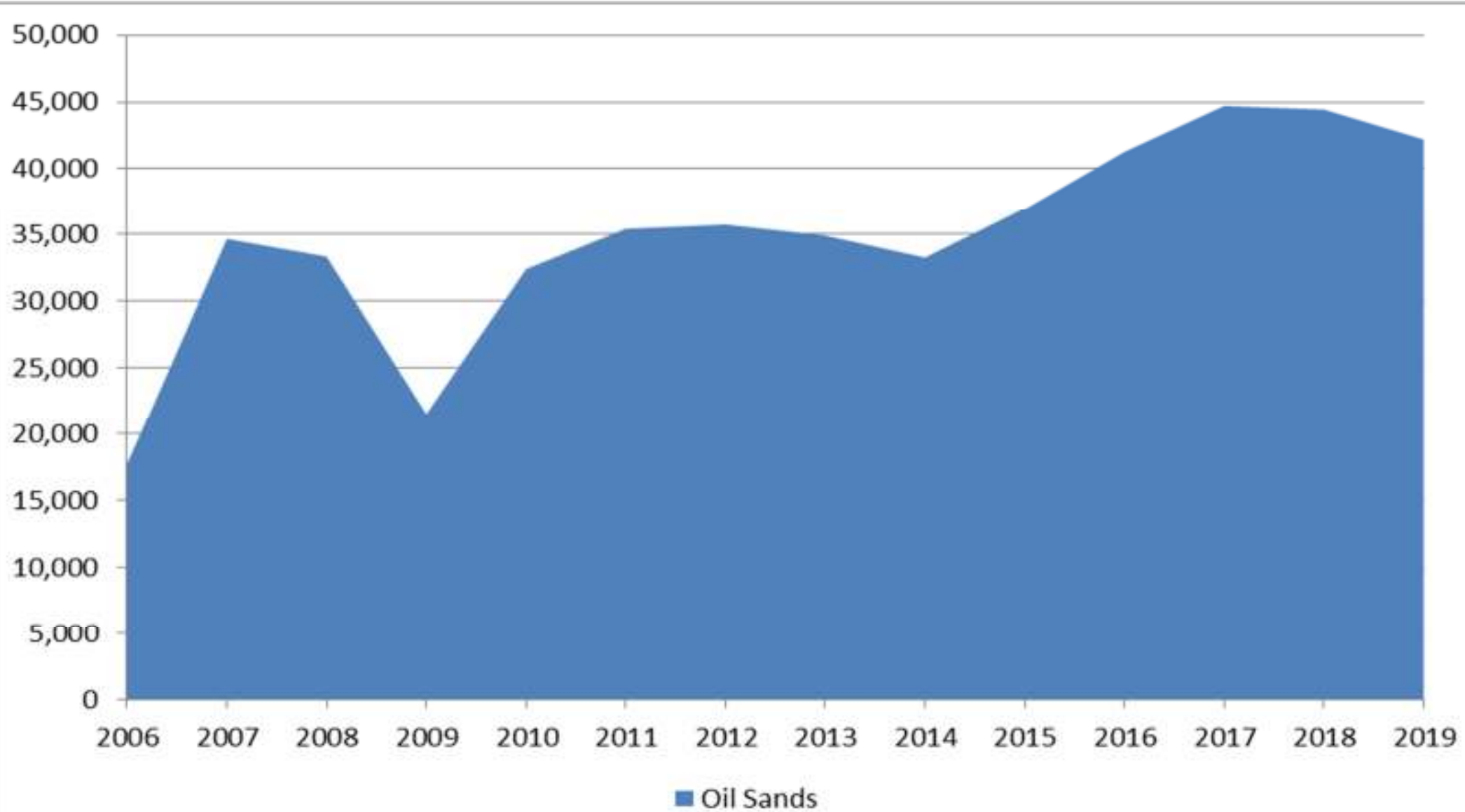
May 2011 LMI Graph



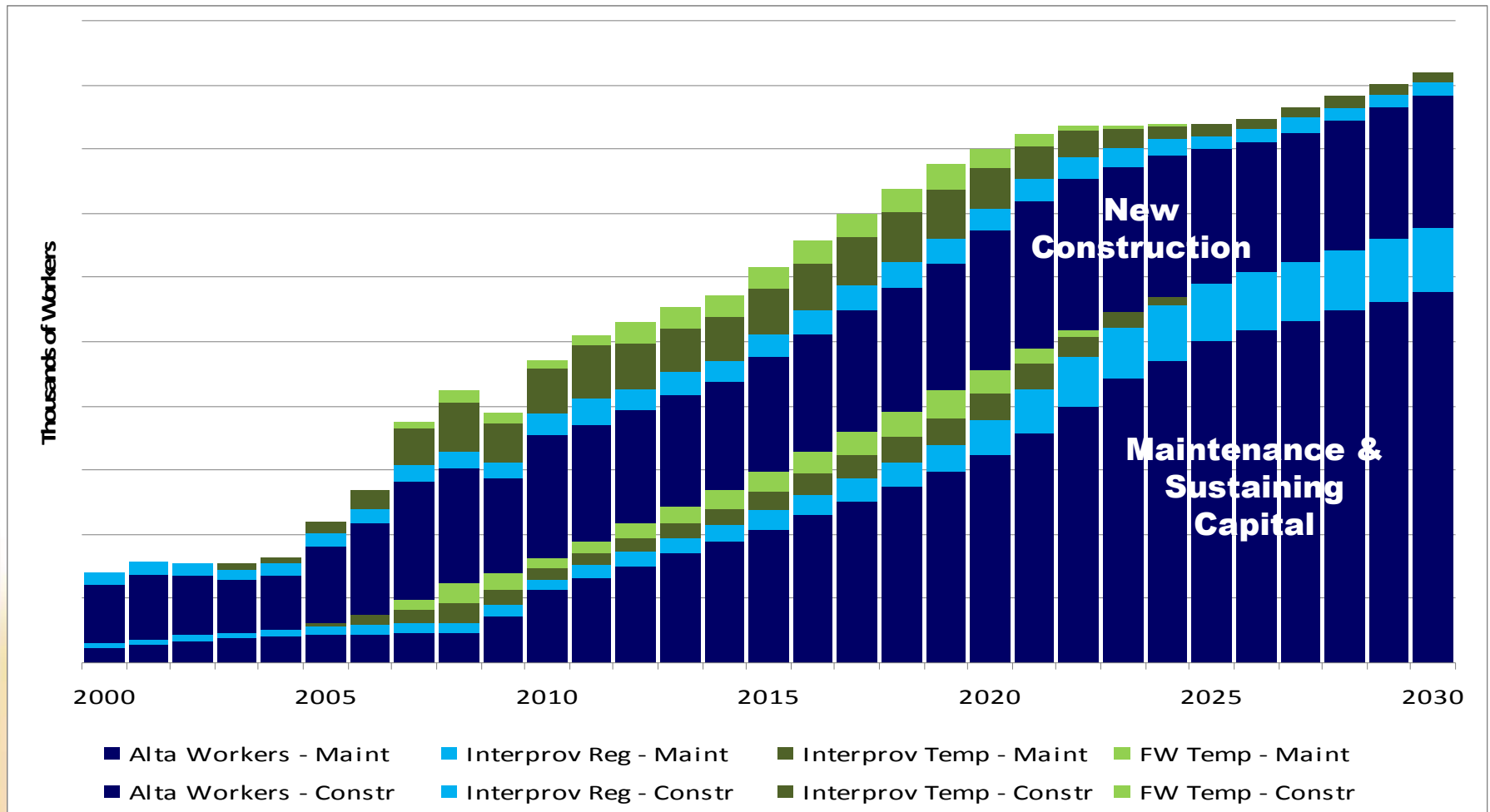


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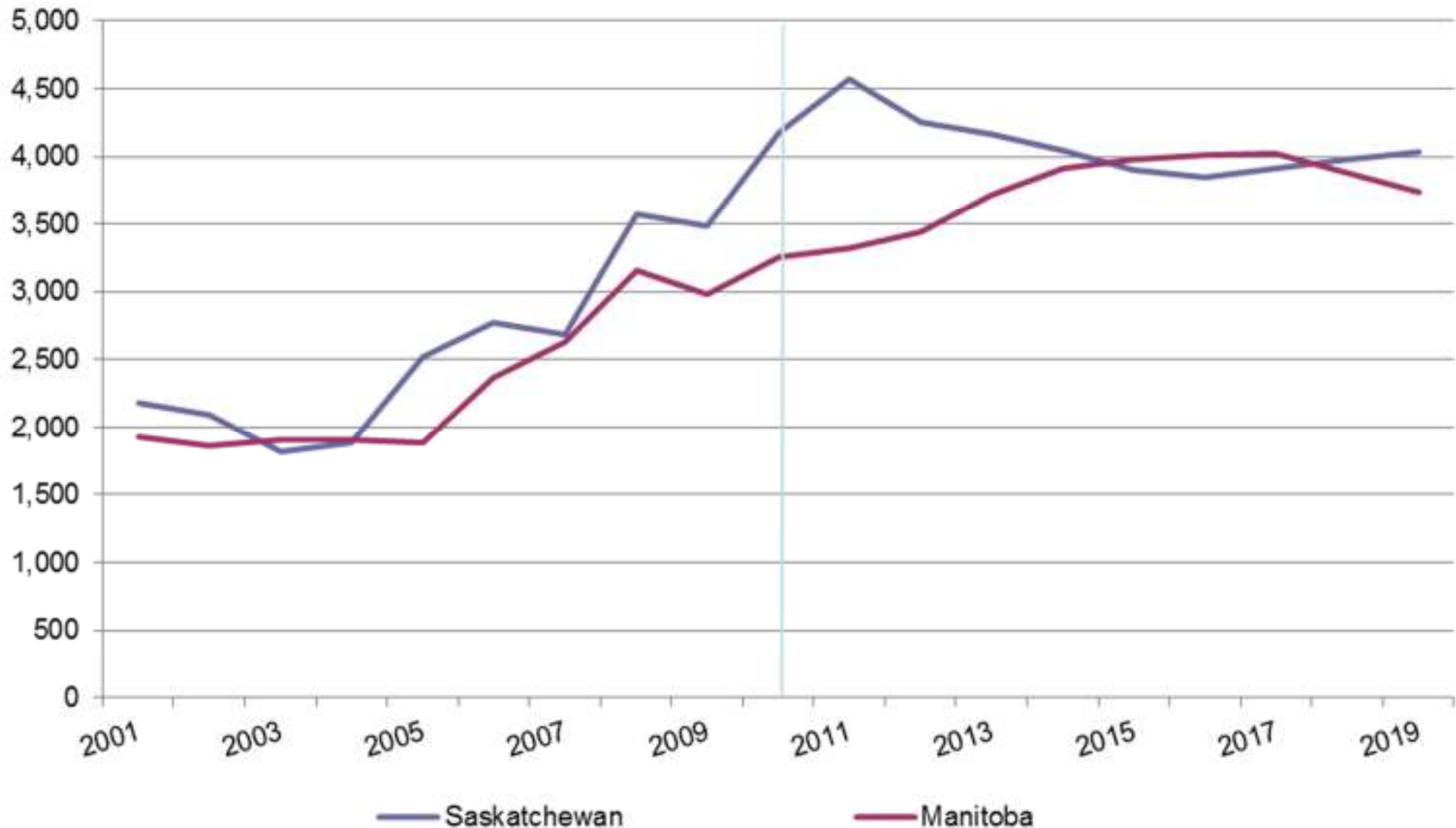
Oil Sands Construction, Maintenance, and Sustaining Capital Employment



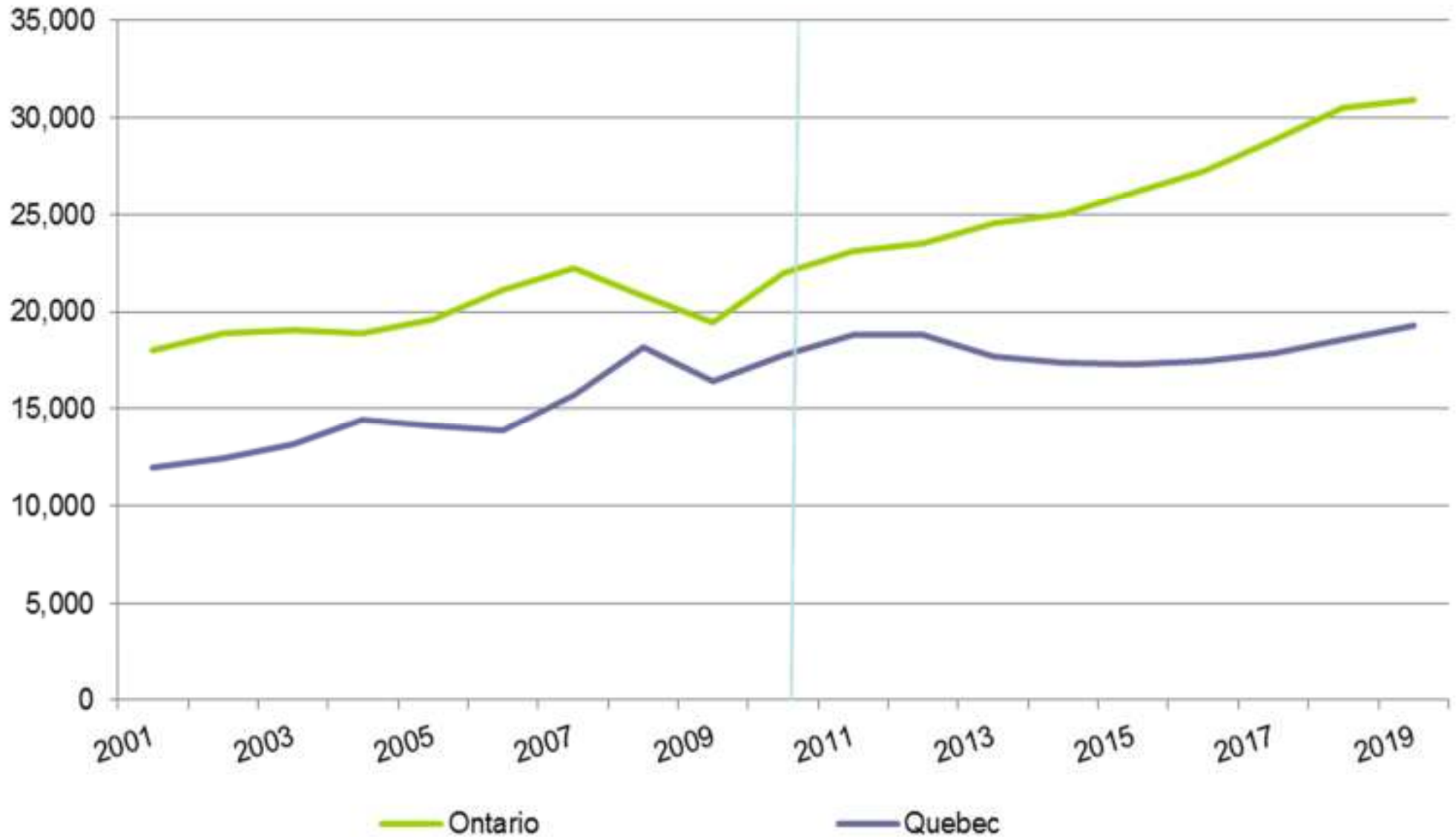
The Evolution of the Alberta Engineering Construction / Maintenance Work Force



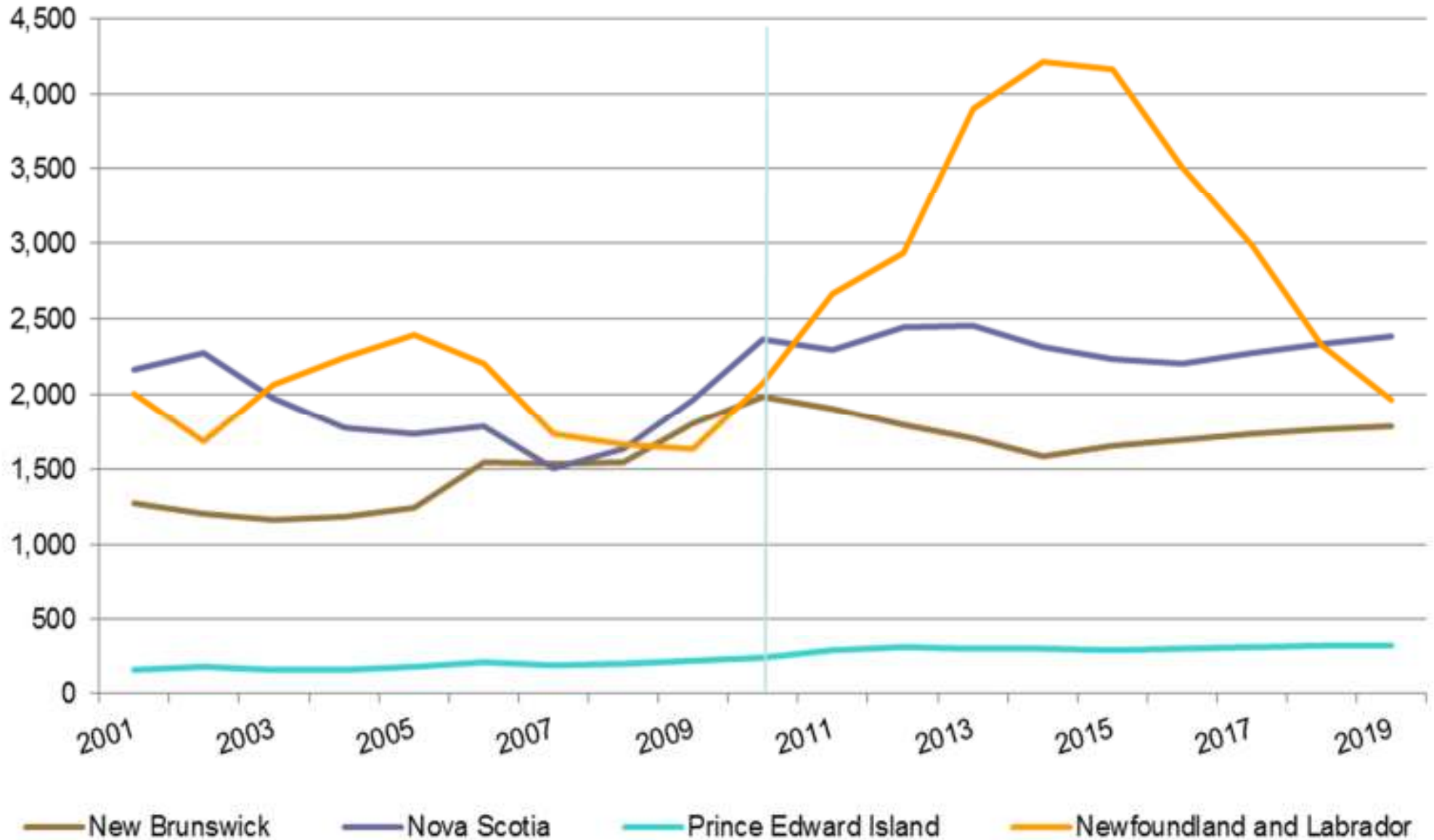
Non-residential Construction Investment, Saskatchewan / Manitoba 2001 to 2019



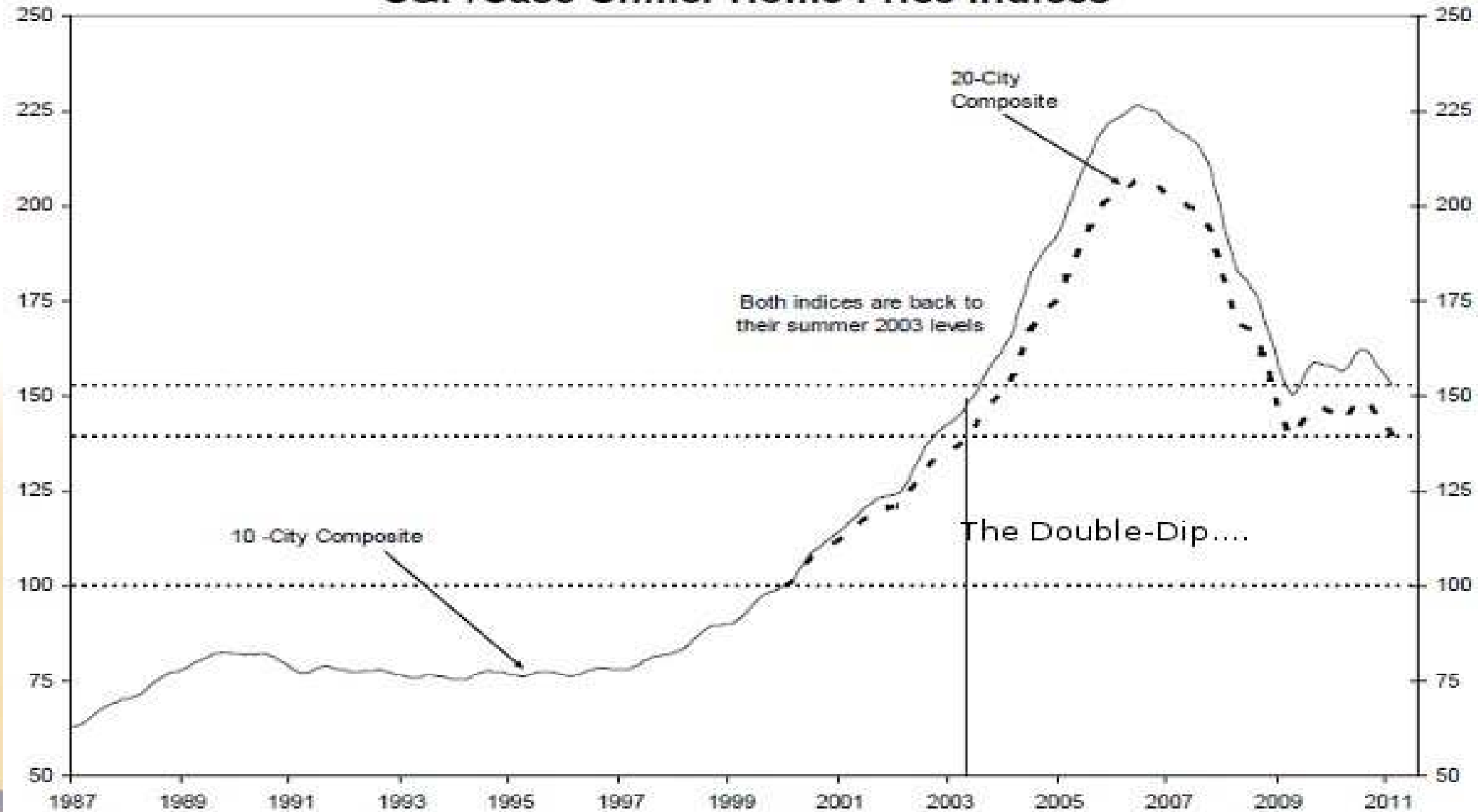
Non-residential Construction Investment, Ontario & Quebec 2001 to 2019



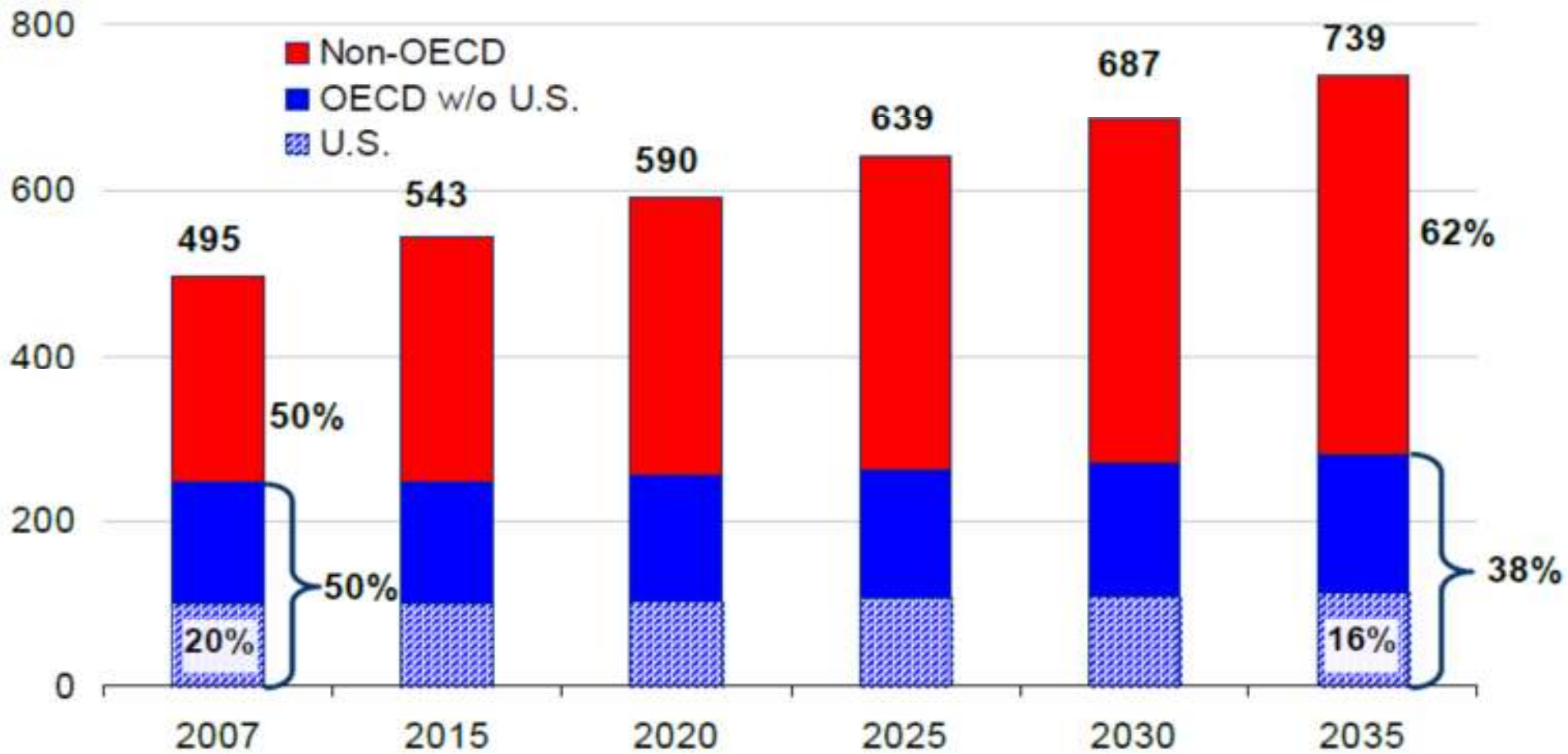
Non-residential Construction Investment, Atlantic Provinces 2001 to 2019



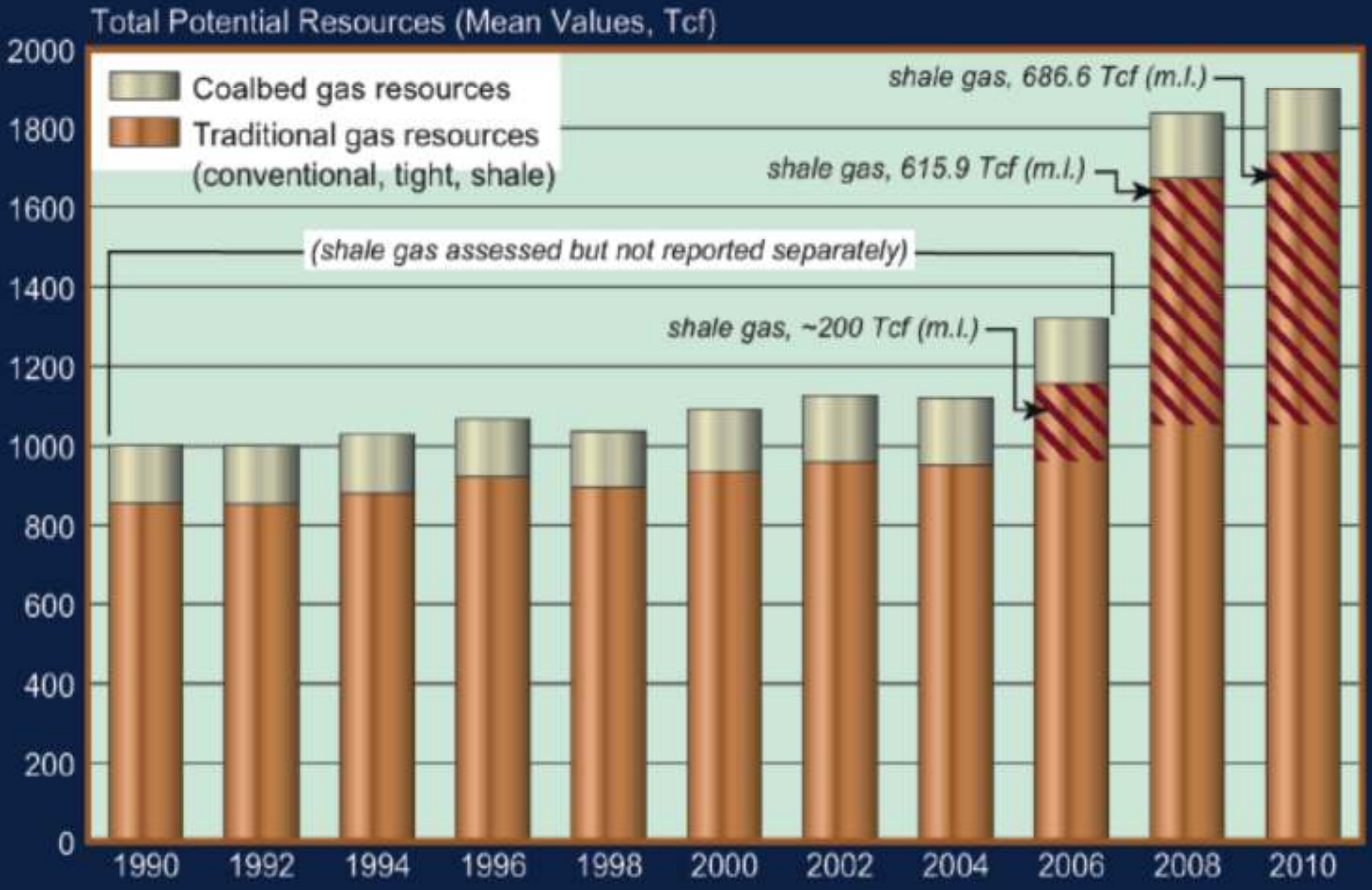
S&P/Case-Shiller Home Price Indices



energy consumption
quadrillion Btu



Total Potential Gas Resources (Mean Values)



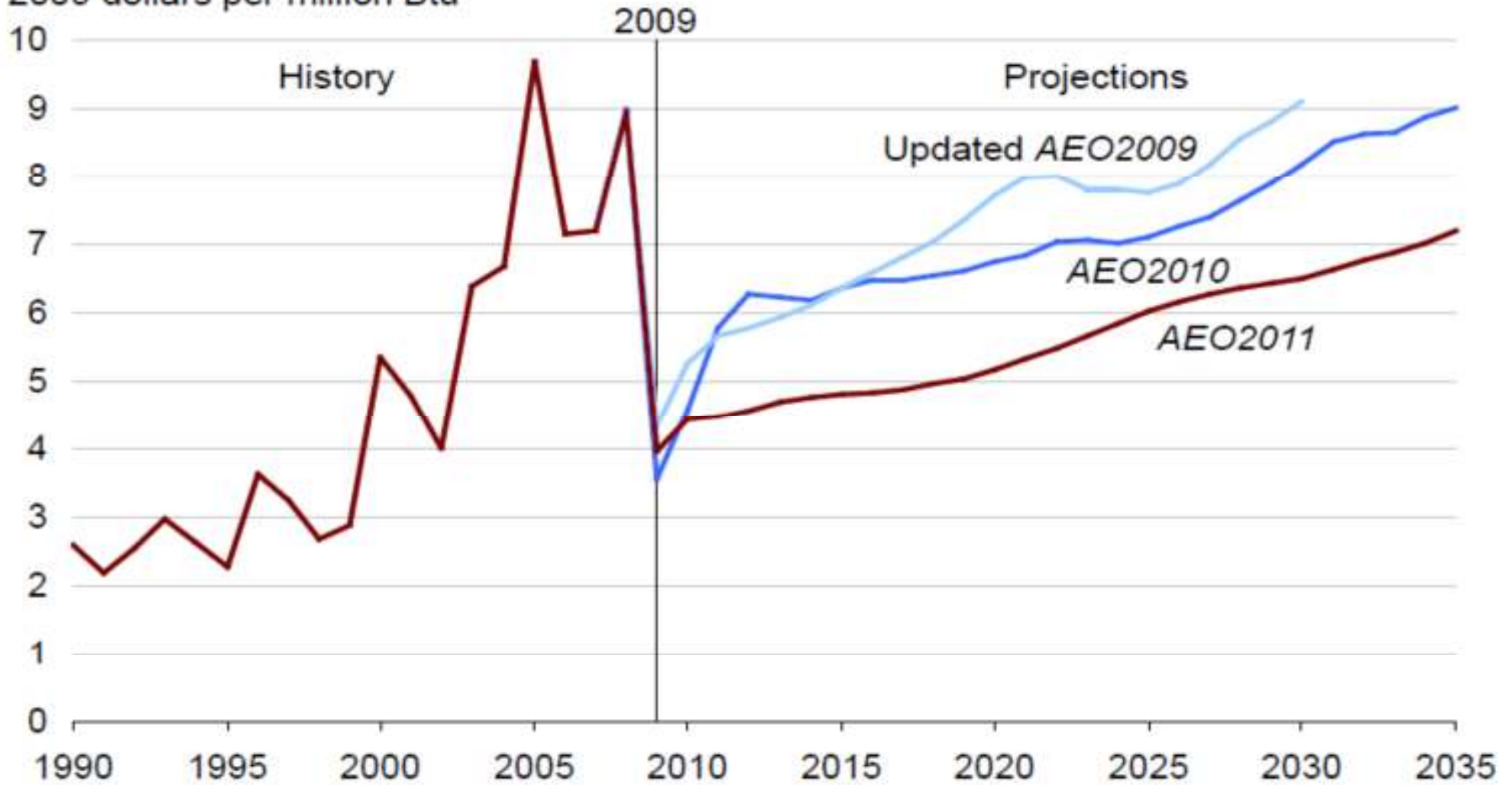
Data source: Potential Gas Committee (2011)



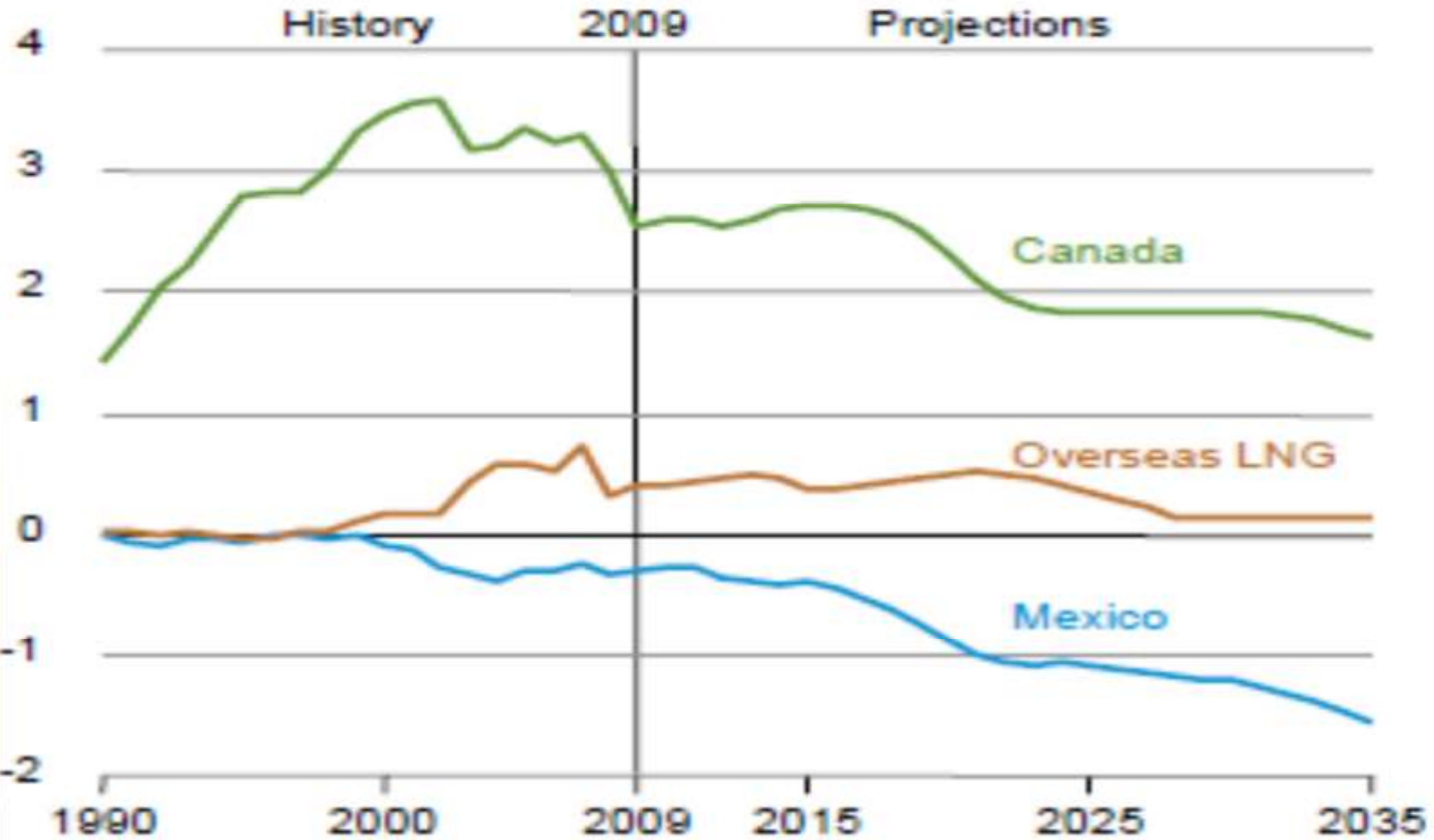
COAA

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natural gas spot price (Henry Hub)
2009 dollars per million Btu



US Net Imports of Natural Gas (trillion cubic feet)



Selected Company 5-Year Imputed Production Costs/Mcfe

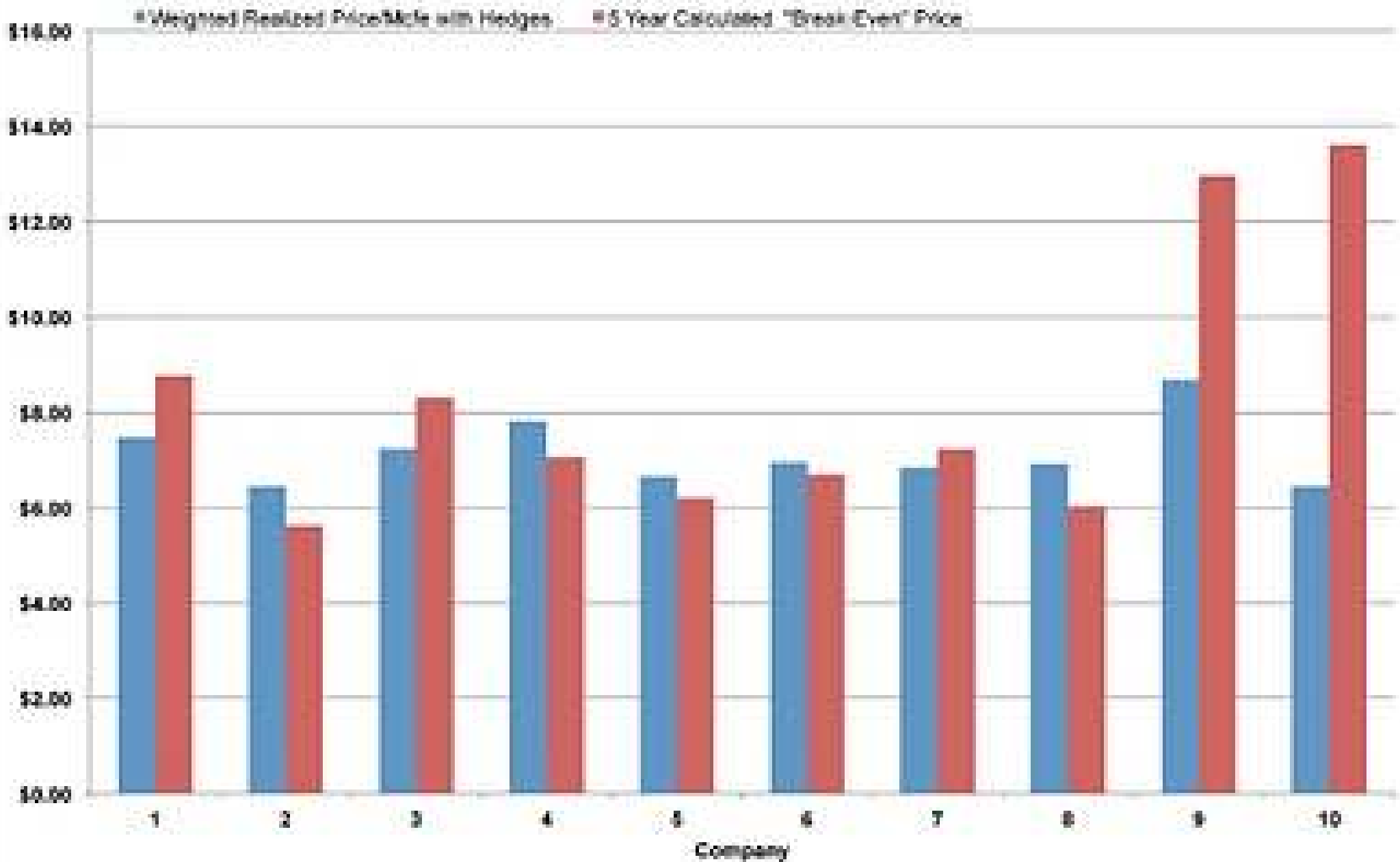


Figure 5. Selected shale company 5-year production costs and realized prices.
Source: Company files.

Four Operator Barnett Gas Production & Number of Wells

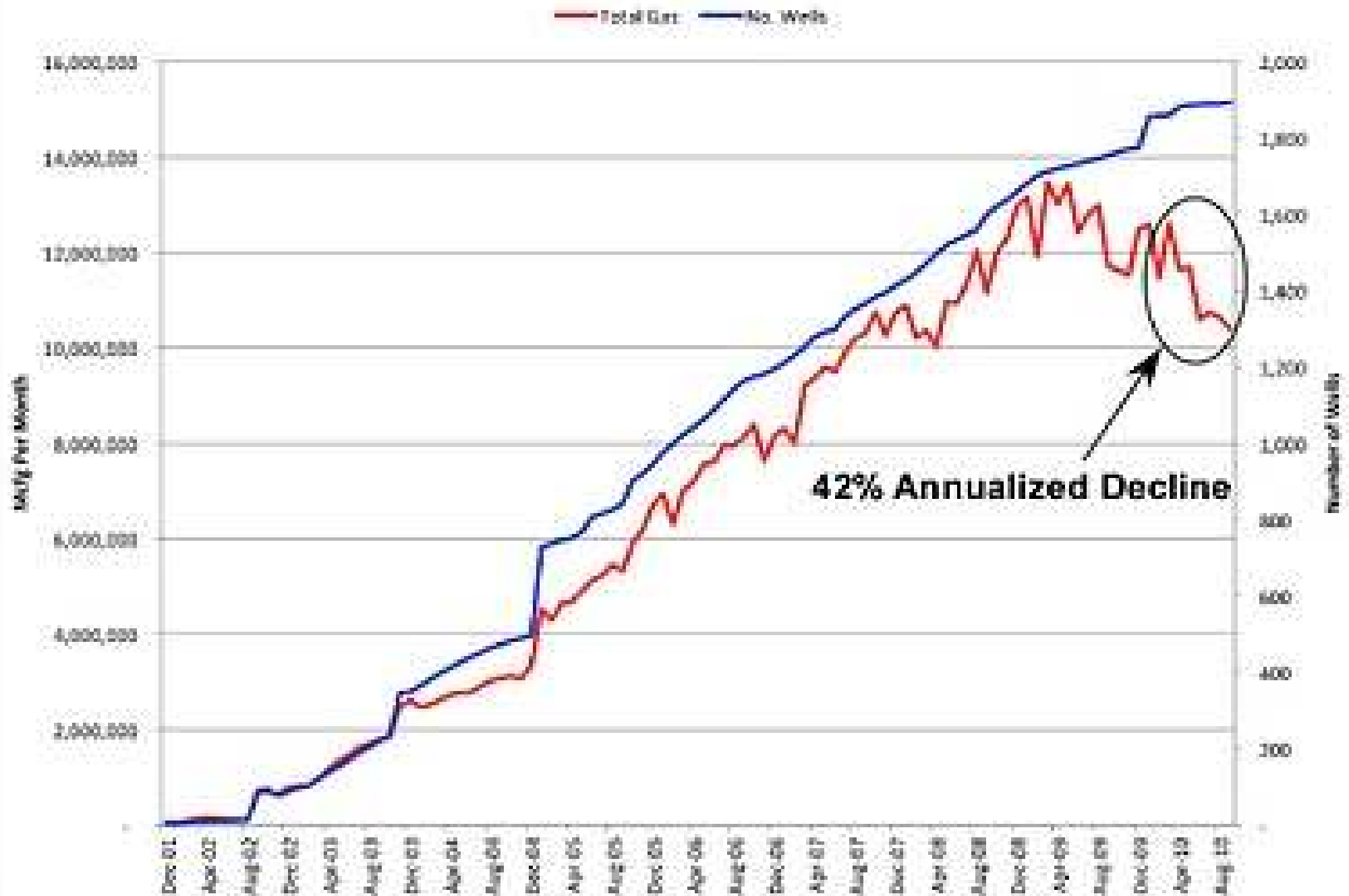


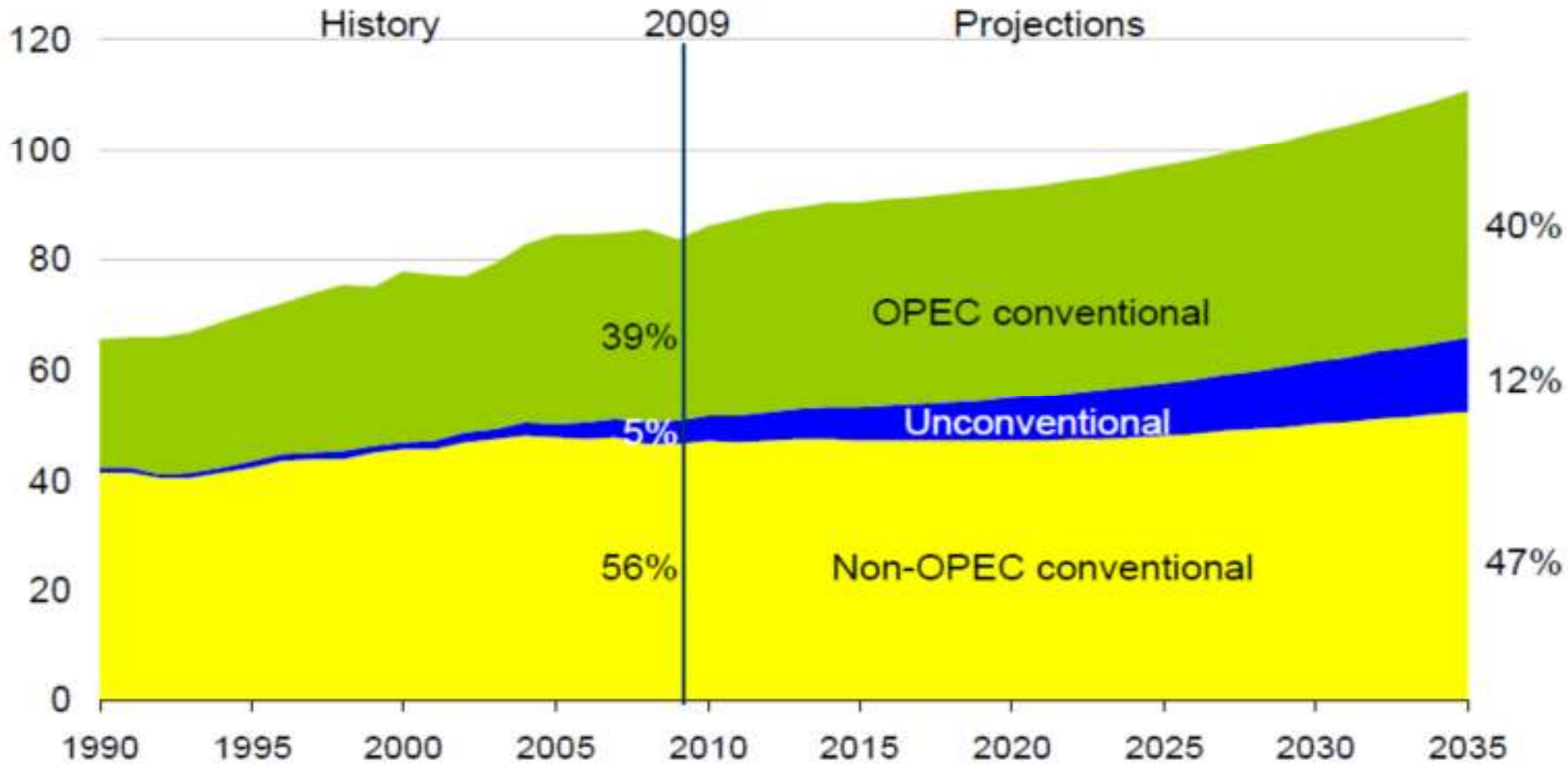
Figure 7. Combined portfolio decline of Encana, ConocoPhillips, Williams and Range Resources in the Barnett Shale. Source: Texas Railroad Commission.



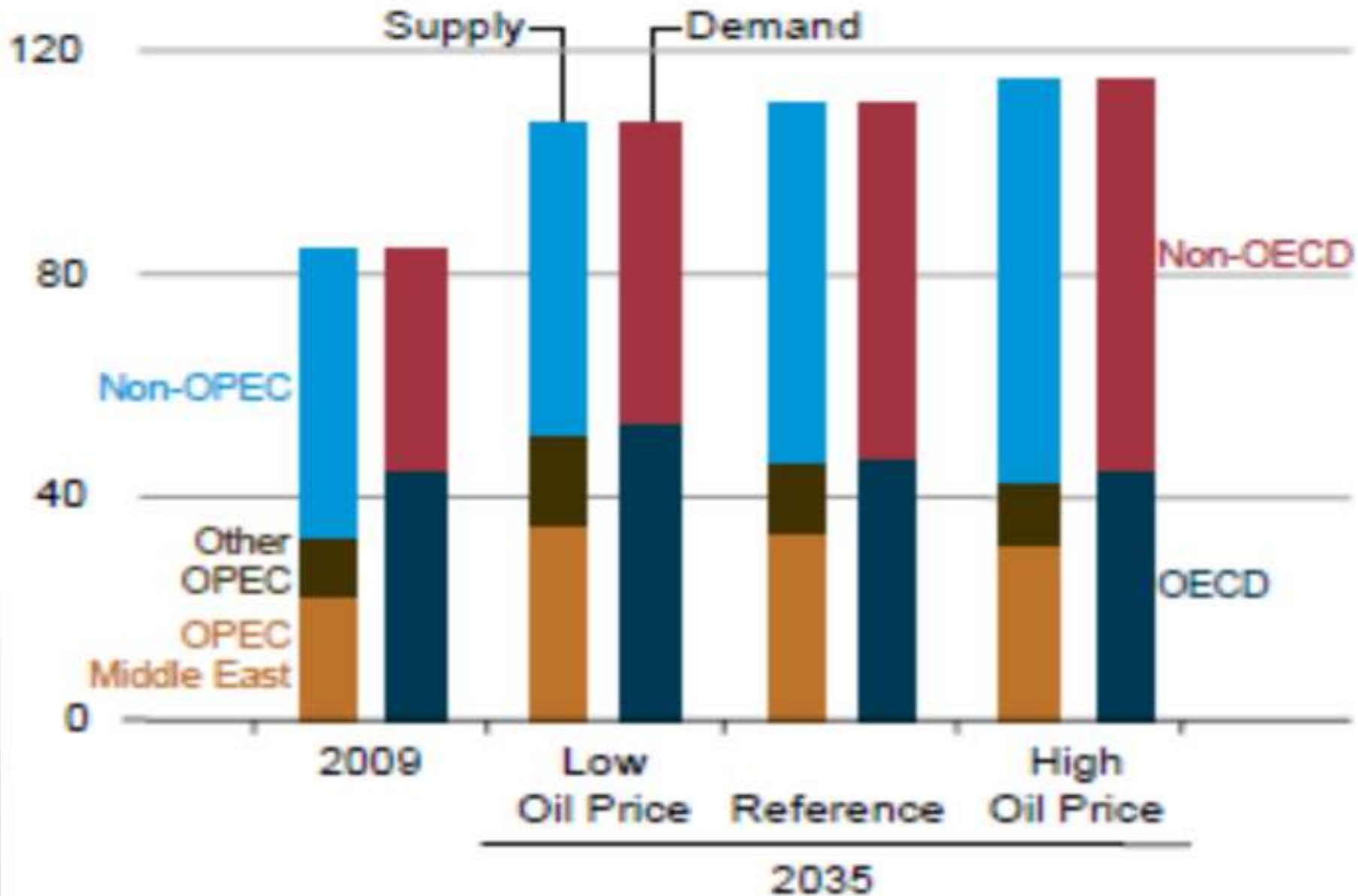
COAA

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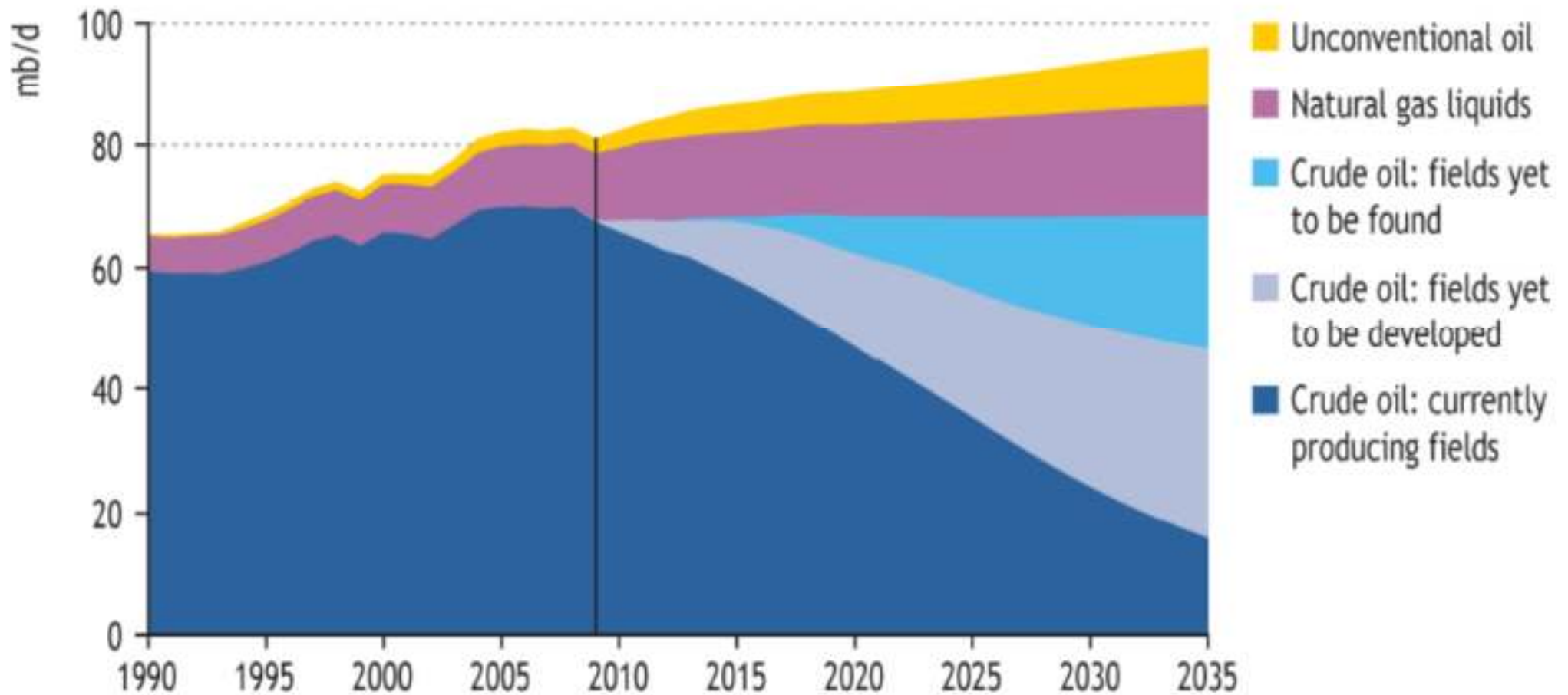
global liquids production
million barrels per day



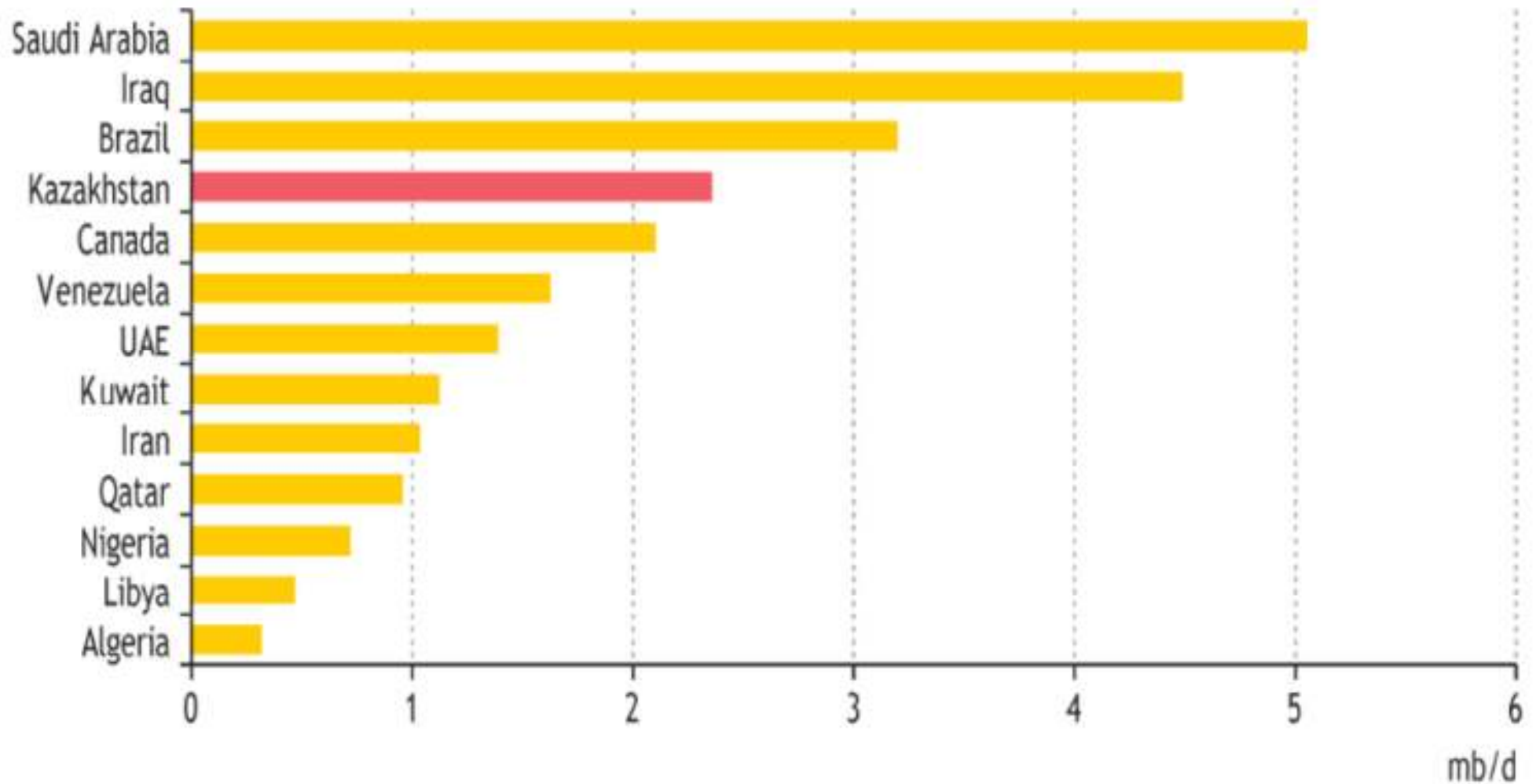
World Liquids Supply and Demand to 2035 (EIA Forecast)



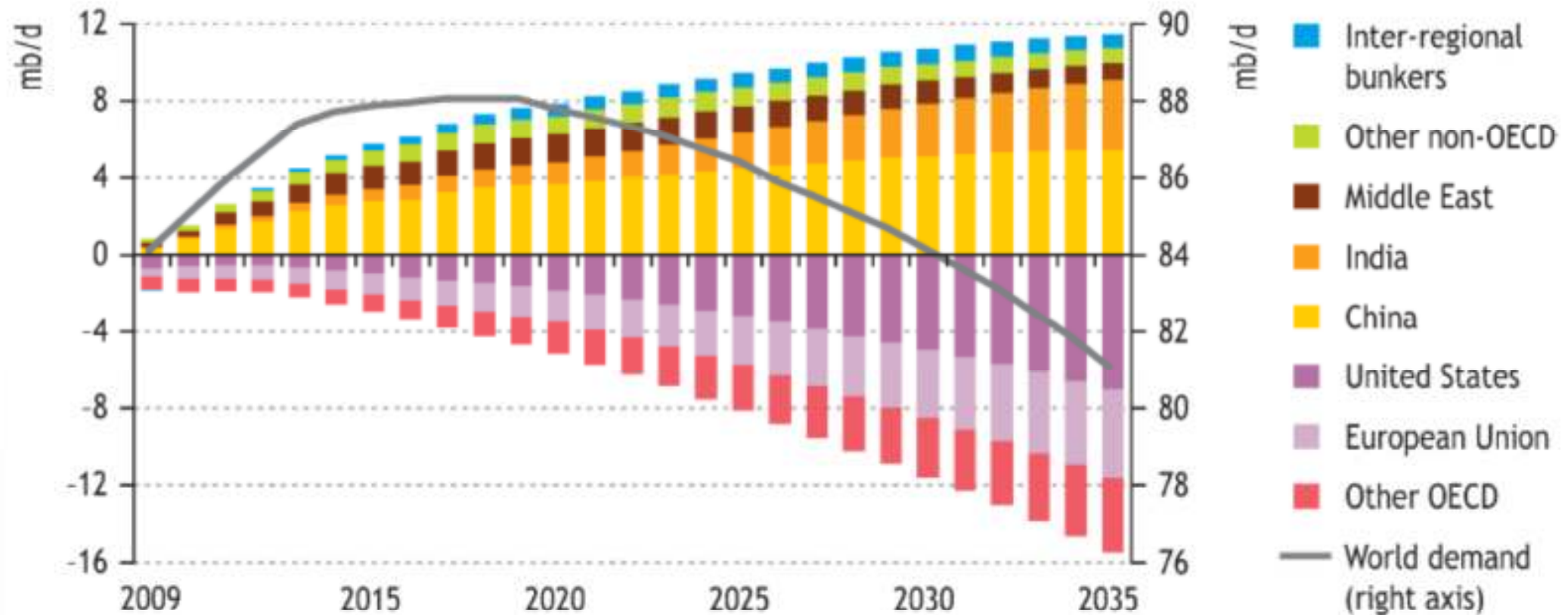
World oil production by type in the New Policies Scenario



Incremental oil production by selected country in the New Policies Scenario, 2009-2035

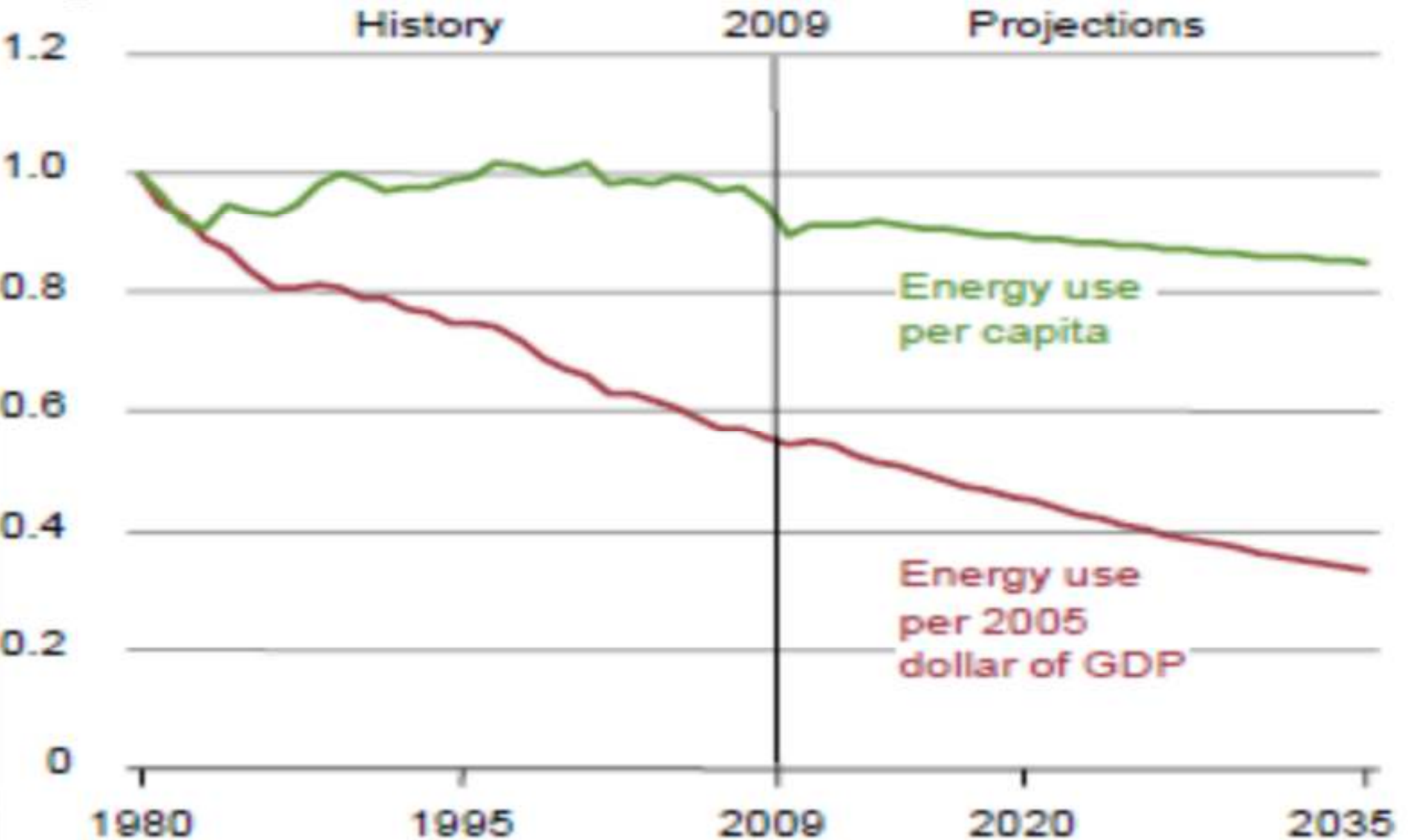


Change in oil demand by region in the 450 Scenario compared with 2008



Oil demand peaks at 88 mb/d before 2020 & falls to 81 mb/d in 2035, with a plunge in OECD demand more than offsetting continuing growth in non-OECD demand

Estimated US Energy Use per Capita and per Dollar GDP

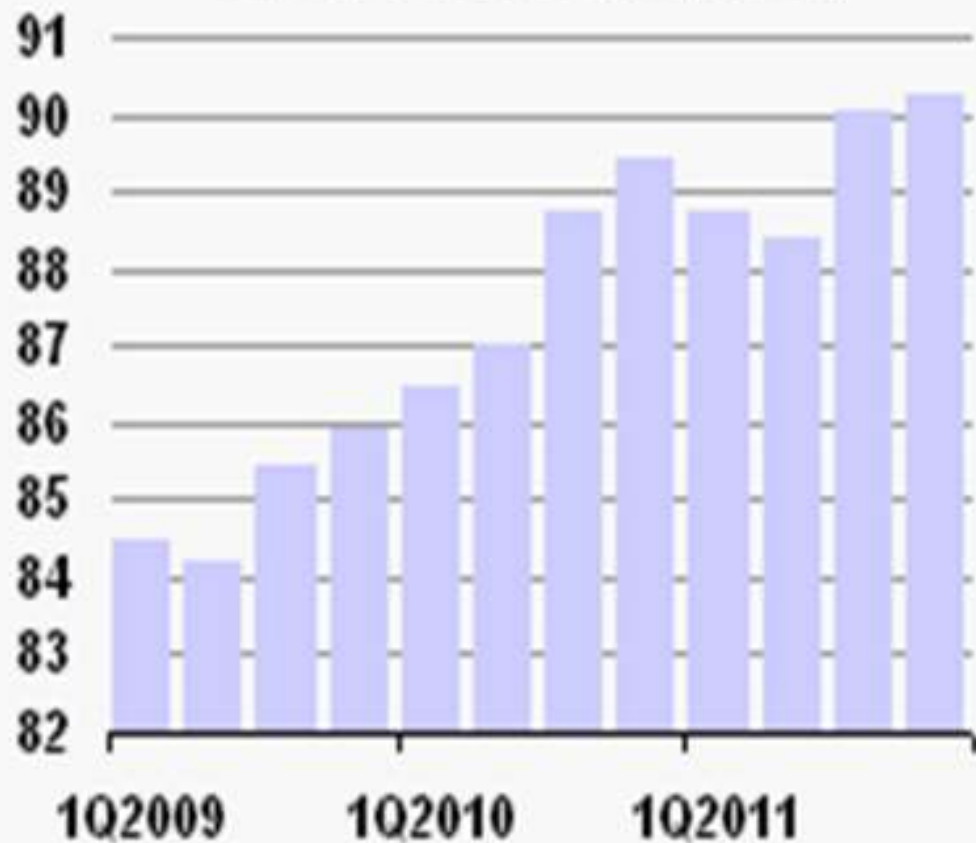




Who's Kidding Who?

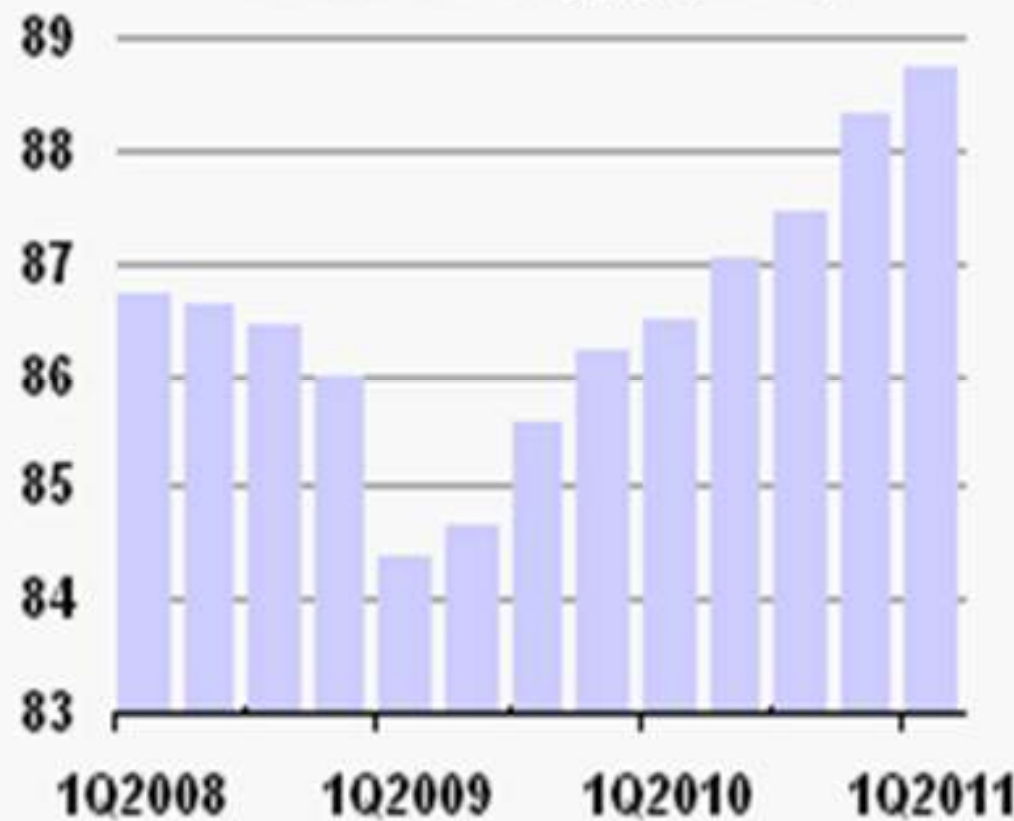
What we will Need

World Oil Demand (mb/d)



What we will Have

World Oil Supply (mb/d)



The background of the slide is a silhouette of a construction site at dusk or dawn. Several construction workers are visible, working on a structure. A large crane is prominent in the center, and various steel beams and scaffolding are visible. The sky is a warm, hazy orange color.

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Construction Industry Performance

Al Wahlstrom

Chair, WorkFace Planning Committee

Director, Central Construction, Major
Projects Construction
Suncor Energy Inc.

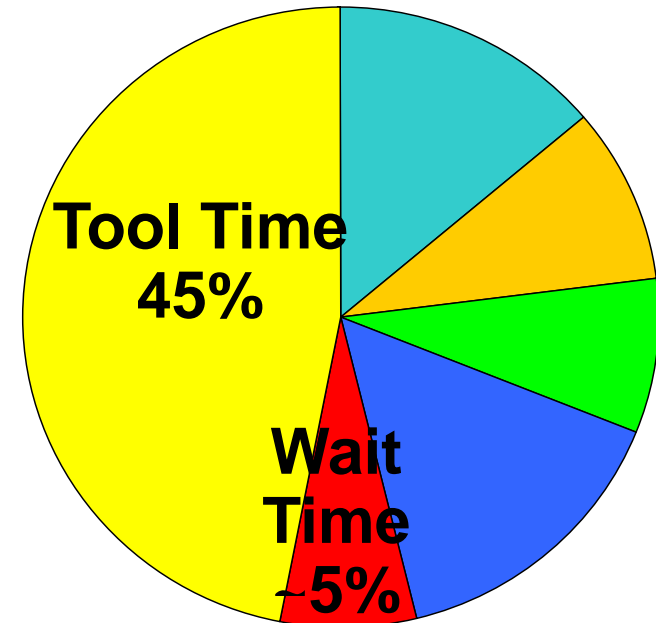
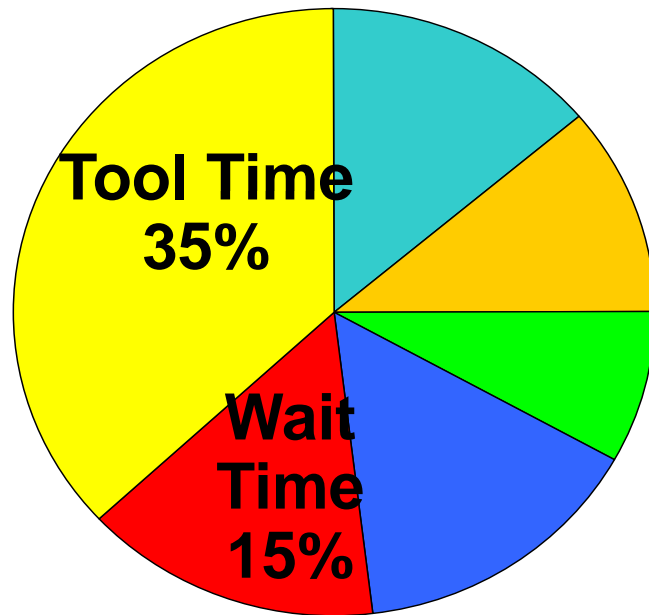


WorkFace Planning Definition

WorkFace Planning is **a value added process** of organizing and delivering all the elements necessary, before work is started, to enable craft persons to perform quality work in a safe, effective and efficient manner.

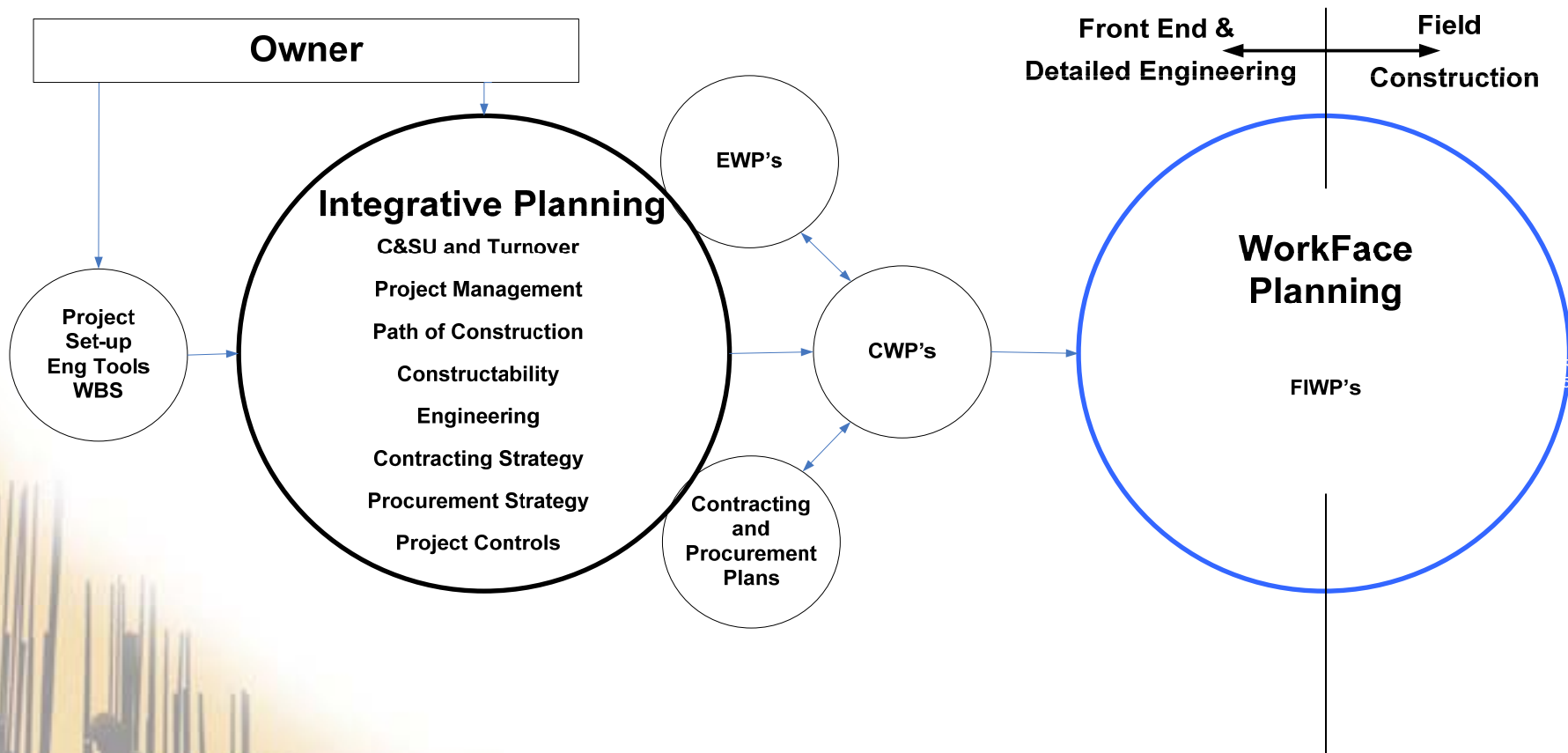


Why WorkFace Planning



- 10% more tool time is a 25% improvement in productivity
- Safety, morale and project predictability improvements

Construction Planning



Development Plan

- Construction Industry Institute (CII)
- Construction Users Round Table (CURT)
- Website and WorkFace Planning Materials





Communication

- Training (Fundamentals Course)
 - 2010 had 41 participants
 - 2011 has had 75 participants todate
- Work Face Planning Conference
 - Sept 19-20, 2011 in Calgary

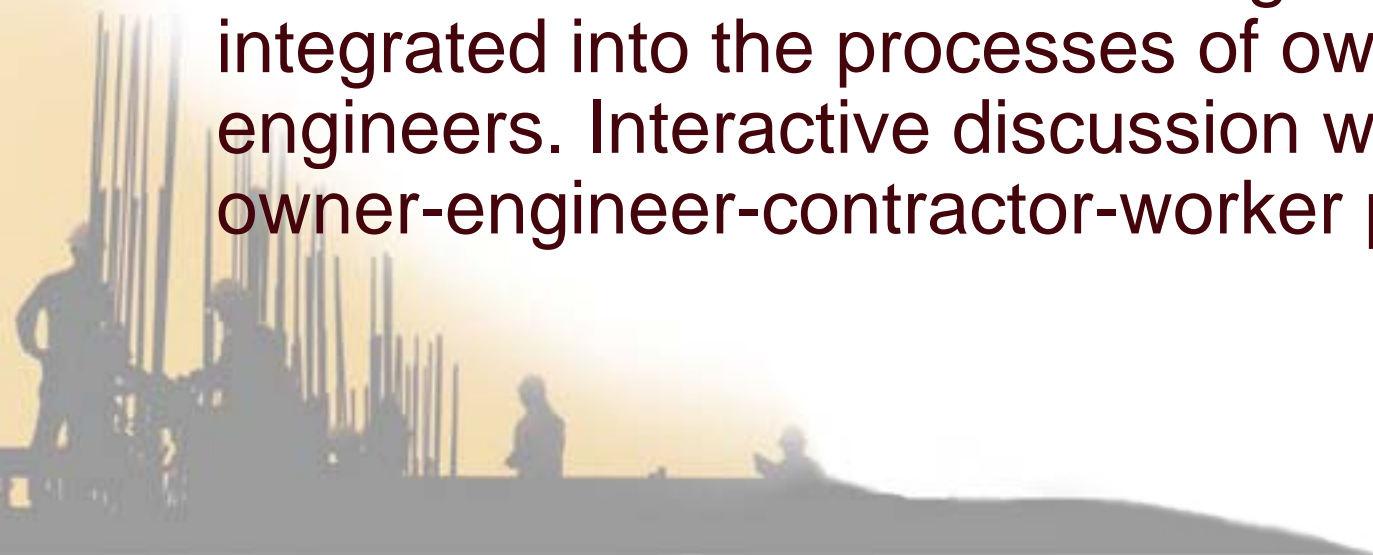




WorkFace Planning Workshop

WFP and Overall Project Planning

Improving productivity at the WorkFace is the culmination of planning which starts at the front end of a project. This workshop will explore how “beginning with the end in mind” can be achieved as WorkFace Planning concepts are integrated into the processes of owners and their engineers. Interactive discussion will draw out owner-engineer-contractor-worker perspectives.





Thank You!



The background of the slide is a silhouette of a construction site at dusk or dawn. The sky is a warm, hazy orange. In the foreground, several construction workers are silhouetted against the light, working on a structure. A large crane is visible in the background, and the overall scene is one of active construction.

Construction Owners Association of Alberta Best Practices Conference XIX May 17 & 18, 2011



Construction Industry Performance

Stephen Revay

Co-Chair, Benchmarking Committee

Vice President, Western Region
Revay and Associates Limited

Larry Sondrol

Co-Chair, Benchmarking Committee

Manager, Project Controls
Suncor Energy Services Inc.



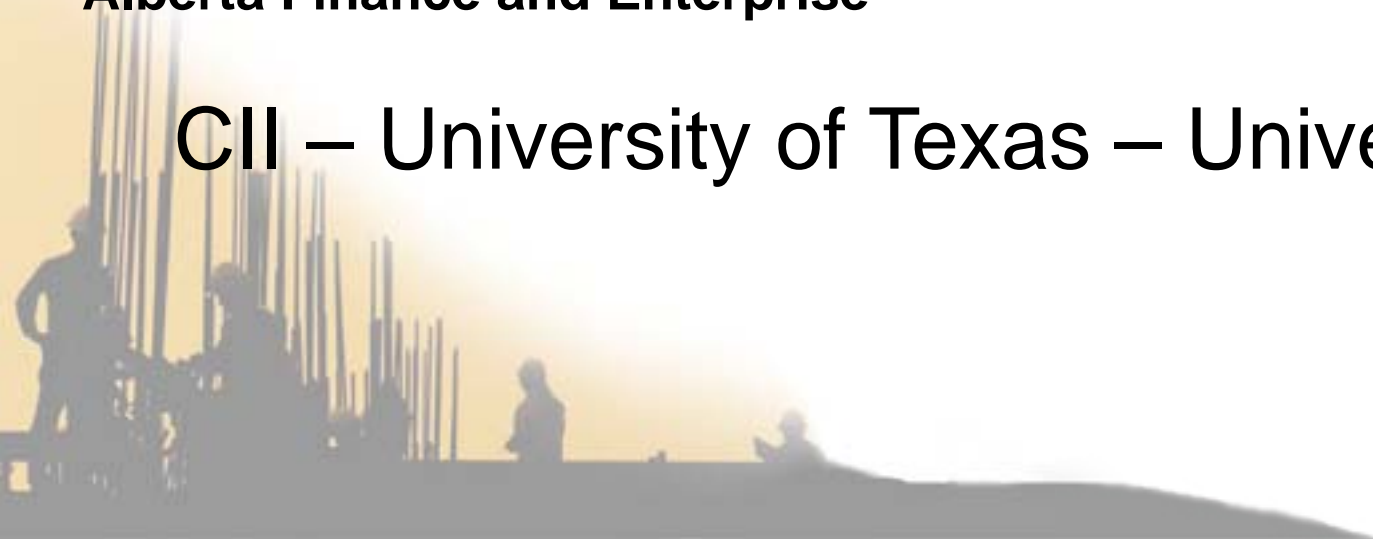
Benchmarking

Government / Industry / Academia Partnership

Patricia Armitage, M.Eng., P.Eng.
Director, Architecture/Engineering/Construction
Industry Development Branch
Alberta Finance and Enterprise

Larry Sondrol
Stephen Revay
COAA Co-Chairs
Benchmarking Committee

CII – University of Texas – University of Calgary



AGENDA

- Benchmarking Phase 2
- Initiating Productivity Committee
- NSERC Grant





PHASE 2 ROLLOUT

- Benchmarking Training Yesterday
- Workshop 12:45 – 2:15
- New questionnaires on web site
- Ready to collect data





PHASE 2 ROLLOUT

NextGen Benchmarking System

- 24/7 Data mining
- Access to more information
- Expanded and refined Key Report





PHASE 2 ROLLOUT

Learning's from Phase 1

- Drilling down on certain metrics (indirect costs— scaffolding - Productivity at Fabrication Yard
- Construction Productivity Metrics Revisions (e.g., Instrumentation)



PHASE 2 ROLLOUT

NEW

- Adding Metrics for Pipelines
- Support from the University of Calgary



Benchmarking Questions

1) Does your firm partake in any Benchmarking efforts?

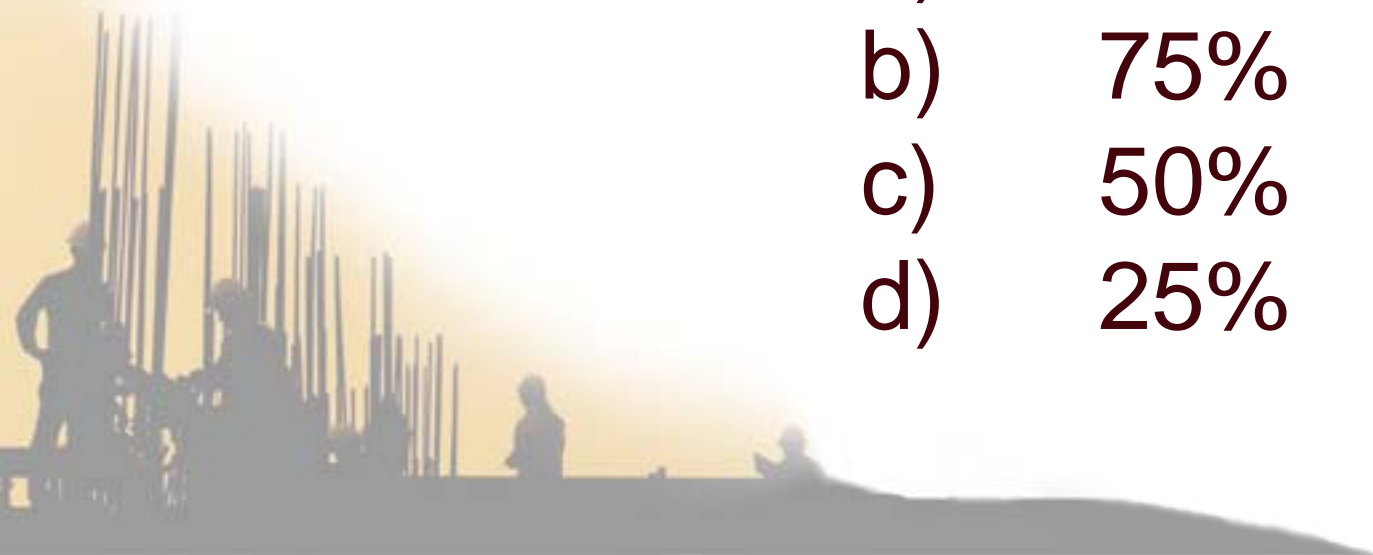
- a) Yes both internal and external
- b) Yes only external
- c) Yes only internal
- d) No



Question 2

2) In phase II of the COAA major projects benchmarking initiative, my company plans to input _____% of our projects completing by winter 2012?

- a) 100%
- b) 75%
- c) 50%
- d) 25%



Question 3

3) **What are the most important benchmarking benefits to your firm?**

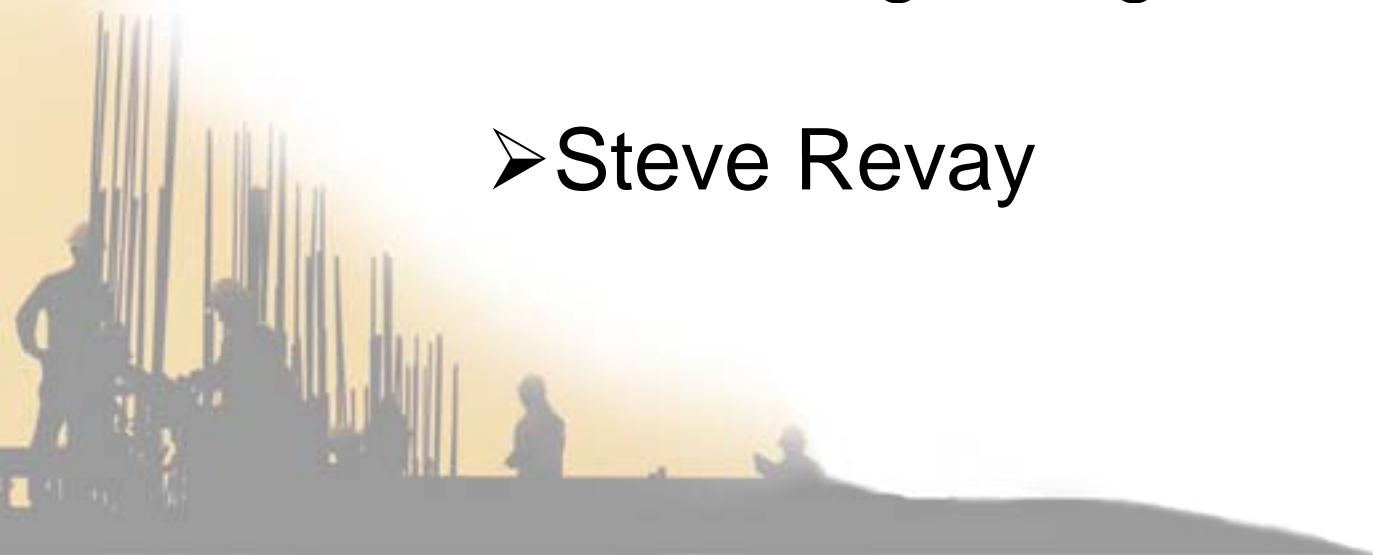
- a) Data provides a reality check on internal estimating
- b) Can check performance and internal and against others
- c) Access to world wide data
- d) A tool to improve overall performance



Productivity Initiative

Co-Chairs

- Dr. George Jergeas
- Steve Revay



Productivity Initiative

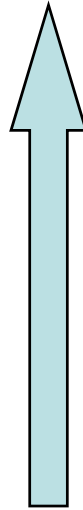
Mandate

Productivity 

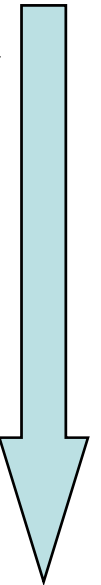


Productivity Initiative

PRODUCTION



PRODUCTIVITY



**ACCELERATION: INCREASED WORK WEEK,
OVERMANNING, CONGESTION**

Productivity Initiative

Progress to date

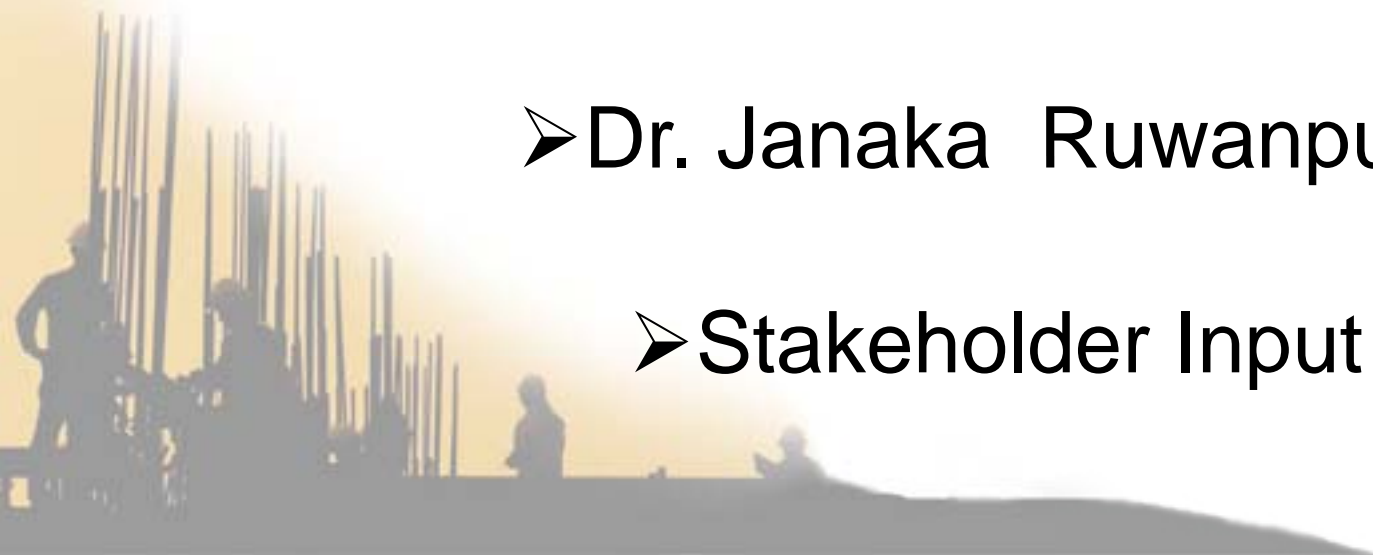
- Assessing Task
- Determining Best Bang for the Buck
- Getting Input from Stakeholders



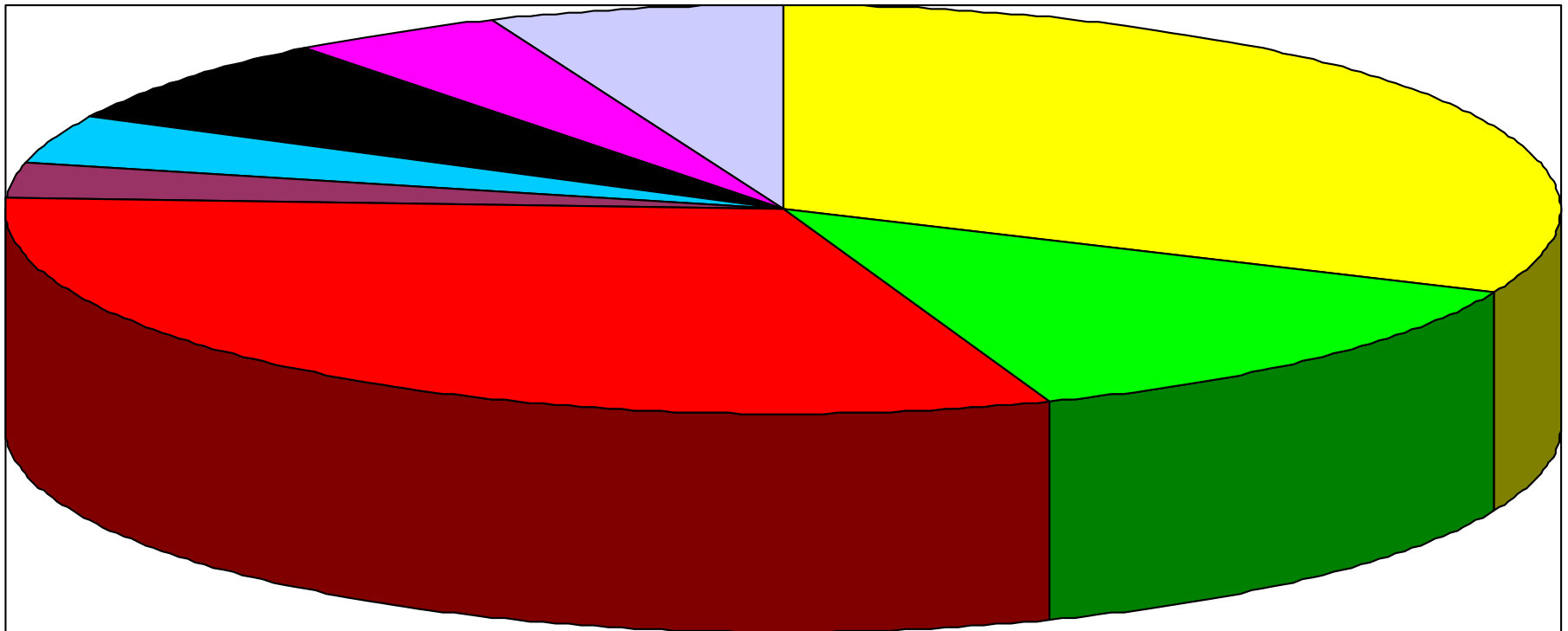
Productivity Initiative

Workshop Agenda

- Introductory Comments
- Overview Productivity Alberta
 - Dr. Janaka Ruwanpura
 - Stakeholder Input



WorkHour Study CII



- | | |
|----------------------|----------------------|
| Direct Work - 32% | Travelling - 13% |
| Waiting - 32% | Late & Early - 3% |
| Personal Breaks - 4% | Tools/Materials - 7% |
| Transporting - 4.6% | Drawings - 6.4% |

Question 4 Tool Time

Do you think that the time on the tools for the trades is:

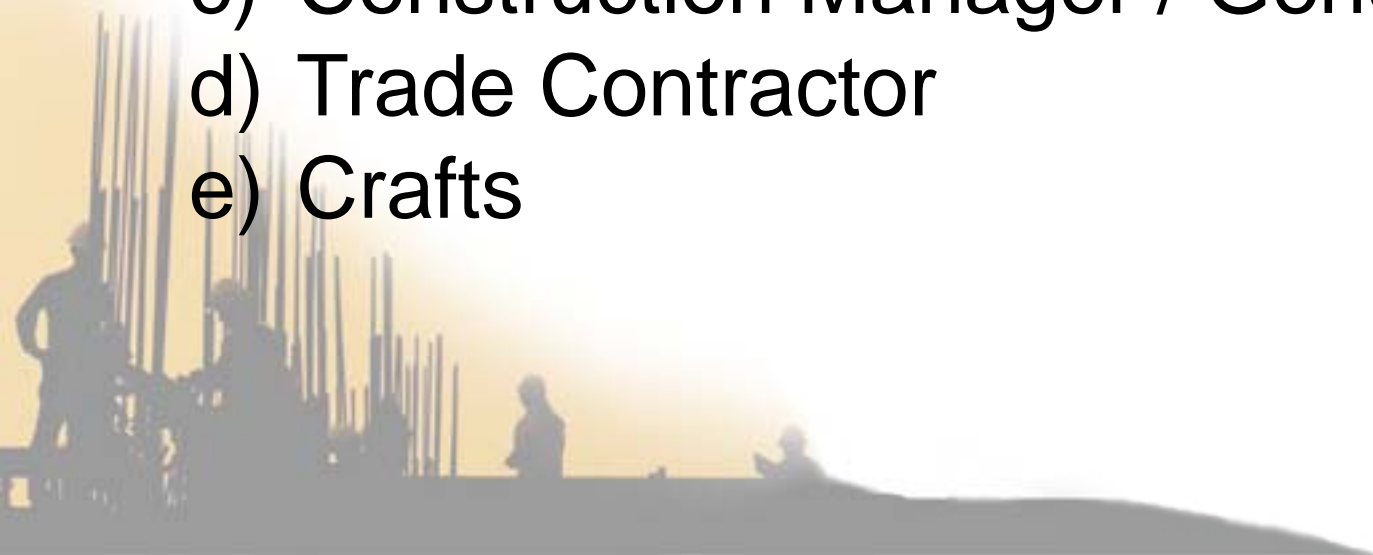
- a) More than 32%
- b) About 32%
- c) Less than 32%



Question 5 Responsibility

Whose behavior / culture do we need to change to have the greatest improvement on productivity?

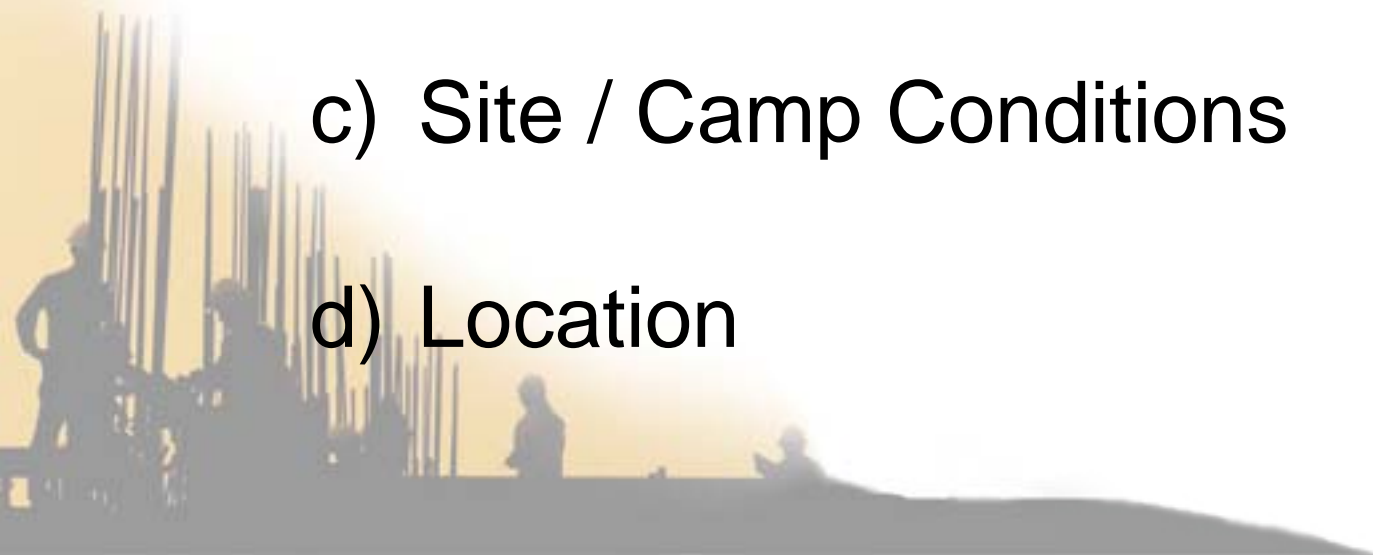
- a) Owner
- b) Engineer
- c) Construction Manager / General Contractor
- d) Trade Contractor
- e) Crafts



Question 6 Impact Factors

What factor has the greatest impact on productivity?

- a) Fast Tracking
- b) Size of Project
- c) Site / Camp Conditions
- d) Location



Construction Owners Association of Alberta Corporate & Volunteer Recognition 2010 - 2011

denotes number of committees individual sits on

**Aecon Lockerbie
Construction Management
Inc.**

Jane Kerry - 1
Lindsay Osmond - 1
Ray Pleasance - 1

Aggreko Canada Inc.
Sue McGregor - 1

**Alberta Advanced
Education and Technology**
Stephen Boyd - 1
Gina Wong - 1

**Alberta Apprenticeship and
Industry Training**
Mark Douglas - 1

**Alberta Construction
Association**
Ken Gibson - 1
Art Riendeau - 1
Gary Wagar - 1

**Alberta Council of
Turnaround Industry
(ACTIMS)**
Shabbir Hakim - 3

**Alberta Employment and
Immigration**
Tim Bennett - 1
Marilynn Boehm - 1
Randy Gauthier - 2
Elizabeth Krywolt - 2
Donna MacPherson - 1
Sherry Maljin - 1
Cailin Mills - 1
Zarelda Reghelini - 1
Eric Reitsma - 1
Mark Rice - 1

**Alberta Finance and
Enterprise**
Patricia Armitage - 3
Kathy Dumaresq - 1

**Alberta Roadbuilders &
Heavy Construction**
Heidi Harris - 1
AltaLink Mark Savoy - 1
Darin Watson - 1

Aluma Systems Inc.
Seamus Coyne - 1

AMEC Natural Resources
Dan Canning - 1
Dan Mowat - 3

Ascension Systems Inc.
Lloyd Rankin - 1

Bantrel Co.
Mike Yorke - 1

Bantrel Constructors Co.
Sarab Bhogal - 1

Bentley Systems Inc.
Robin Mikaelsson - 1

**Bird Construction
Company**
Frank DeLuca - 1
Dave Ferro - 1
Joe Gauthier - 1
Angie Perras - 1
Tannis Proulx - 1

Building Trades of Alberta
Gerry Donnelly - 1
Ron Harry - 1
Greg Reid - 1

Cahill Industrial Limited
Keith Wellon - 1

**Canada Mortgage and
Housing Corporation**
Vinay Bhardwaj - 1

**Canadian Natural
Resources Ltd.**
John Brogly - 2
Charles Dyer - 1

Capital Power Corp.
Tom Eley - 1

CEDA Reactor Ltd.
Gillian Bowering - 1

Genovus Energy Inc.
Tannis Liviniuk - 1
Gordon McCaughey - 1
Rick Watters - 1

**Chemco Electrical
Contractors Ltd.**
Dave Hagen - 1
Matthew Hofer - 1

**Christian Labour
Association of Canada
(CLAC)**
Bob Barker - 1
Rob Cleveland - 1
Edwin Dening - 1
Ryan Timmermans - 2
Burt van Delden - 1

**City of Edmonton
Raeleigne**
Van Patten - 1

**Commonwealth
Construction Company
Ltd.**
Jackie Burse - 1

**ConocoPhillips Canada
Limited**
Todd Rapp - 1

**Construction Labour
Relations - Alberta (CLR-A)**
Ron Cherlet - 1
Doug Hawkins - 1
Herb Holmes - 4
Lynne Palumbo - 3
Neil Tidsbury - 2

Digital Time Capture
Scott Cuthbert - 1

**Edmonton Exchanger
Group of Companies**
Cheryl Hamer - 1
Kaitlyn Jaques - 1
Allison Vasseur - 1

**Electrical Contractors
Association of Alberta**
Pat Barnes - 1

**Element Industrial
Solutions Inc.**
Ben Swan - 1

Enbridge Pipelines Inc.
Garett Eisenbraun - 1
Sean Evans - 1
Cristina Figueiredo - 2
John Gerez - 3
Thomas Munro - 1
Antony Ngo - 1

Flint Energy Services Ltd.
Darrell Coughlin - 1
Jake Coughlin - 1
Terry Densmore - 1
Murat Mutyshev - 1
Angelo Osualdini - 1
Bill VanVeelen - 1

Fluor Canada Ltd.
Bob Gould - 2
Jose Herrero - 1
Hugh Tackaberry - 2

Fraser Milner Casgrain LLP
Jane Sidnell - 2

FT Services
Rafat Farooqi - 1
Gordon Kilmaster - 1

GENIVAR Consultants LP
Wayne Marr - 1

**Graham Industrial Services
Ltd.**
Jamie Caithcart - 1

Husky Energy Inc.
Donald Mousseau - 1

Imperial Oil Resources
Edith Cook - 1
Stephanie Mills - 1
Scott Williams - 1

Jacobs Canada Inc.
Niels Frederiksen - 1
Dan McBride - 1
Brenda McCallum - 1

JV Driver Projects Inc.
Vawn Jeddry - 1
Joel Lukaseder - 1
William Parnetta - 1
Rod Schenk - 1

KBR Canada Limited
Henry Marks - 1
Rob Reid - 2
Jenny Torgerson - 1
Cara Yu - 1

**Kiewit Energy Canada
Corp.**
Troy Ritcy - 1
Lori Miller - 1

Krupp Canada Inc.
Andrew Johnson - 1
Laird Electric Inc.
Ryan Heinish - 1

Laricina Energy Ltd.
Frank Gutowski - 1
Erika Lof - 1
Jason Scherpenisse - 1

**Ledcor Group of
Companies**
Brian Edwards - 2
Syd Hartley - 1
Dale Hildebrandt - 1
Larry Jones - 1
Wayne McFarlane - 1
Glen Warren - 1

Construction Owners Association of Alberta Corporate & Volunteer Recognition 2010 - 2011

denotes number of committees individual sits on

McLennan Ross LLP
David Myrol - 1

MEG Energy Corp.
Colleen MacDonald - 1

Merit Contractors Association
Stephen Kushner - 3
Marla McCready - 3
Bill Stewart - 1

Miller Thomson LLP
Bill Kenny - 1
Lauren Toreson - 1

Nexen Inc.
Jason Bobier - 1
Tricia Chrzanowski - 1
John Cross - 1
Jim Freiburger - 1
Dave Kirk - 1
Dave Relke - 1
Mike Rogers - 1
Bill Somerville - 1
Greg Taylor - 1
Deborah Windle Smith - 1

Noramac Ventures Inc.
Verne Middleton - 1

NOVA Chemicals Corporation
Doug Batke - 1
Dariel Dent - 1
Ron Embury - 1
Ernie Tromposch - 1

NPC Integrity Energy Services
Denny Miller - 1

Oil Sands Safety Association
Tim Gondek - 1

OSUM Corp.
Hal Middlemiss - 2

PCL Constructors Inc.
Mike Morton - 1
Marc Oleksiw - 1

PCL Intracon Power Inc.
Todd MacDonald - 1

PME Inc.
Trevor Wiebe - 1

Progressive Contractors Association of Canada (PCAC)
Paul de Jong - 2
Hardy Lange van Ravenswaay - 6

Revay and Associates Limited
Stephen Revay - 2

SafeTech Consulting Group Ltd.
Guy Lambert - 1
Brenda Madley - 1

Safety With Advanced Technology Ltd.
Jesse Johnson - 1
Gary Orton - 1

SAIT Polytechnic
Faisal Ali - 1

Seriously Speaking
Michelle Devlin - 1

Service Canada
Wilma Monje - 1

Shell Canada Energy Inc.
Aamer Ahmed - 1
Lindsay Berg - 1
Winston Fynn - 1
Bob Jefferis - 1
Rachelle MacNeill - 2
Tanner O'Reilly - 1
Glenn Winter - 1

Sherritt International
Brenda Bakke - 1
Nancy Fedyniak - 1

Stantec Consulting Ltd.
Ray Ambeault - 1
Brian Rodrigues - 1
Gary Semaniuk - 1

Statoil Canada Ltd.
Bjarne Bakken - 1
Kevin Mather - 2

Sterling Crane
Russ Brown - 1

Suncor Energy Inc.
Gordon Cross - 1
Ron Genereux - 1
Sheila Innes - 1
Roland LaBossiere - 3
Lubo Lliev - 2
Ann Locke-Pope - 1
Larry Sondrol - 2
Anthony Van Tol - 1
Joe Varughese - 1
Deriabine Vladimir - 1
Al Wahlstrom - 2

Sureway Construction Management Ltd.
Reg Belyea - 1
David Gagnon - 1
Greg Irving - 1

Syncrude Canada Ltd.
Andy Cuipa - 1
Shandra Linder - 1
Matthew Smart - 1
Randy Stefanizyn - 2
Terry Ukrainec - 1

Techint E&C
Gustavo Blejer - 1

Technip Canada Ltd.
Nicki Haig - 1
Marcello Tarantini - 1

ThyssenKrupp Safway Inc.
Alan McRobb - 1

Total E&P Canada Limited
Shawn Hinch - 1

TransAlta Corporation
Hugo Shaw - 2
Carl Souchereau - 1

TransCanada Pipelines Ltd.
Jackie Beattie - 1
Darcy Kundert - 1
Alex Midwinter - 1
Valerie Nolan - 1
Clay Vikse - 1

Triton Projects Ltd.
Norm Sampson - 1

TWD Technologies Ltd.
Kevin Kuly - 1

United Association of Plumbers and Pipefitters
Lee Adkins - 1

University of Alberta
Sang Hyun Lee - 1
Aminah Robinson Fayek - 2

University of Calgary
Farshid Gholami - 2
George Jergeas - 1
Jim Lozon - 1

Waiward Steel Fabricators Ltd.
Terry Degner - 1

Walsh Wilkins Creighton LLP
Christopher Knight - 1

Willbros Construction Services (Canada) LP
Shelley Hassen - 1
Jeremy Kinch - 1
Tony Quinlan - 1
Darrell Ziehr - 1

Women Building Futures
JudyLynn Archer - 2
Wanda Wetterberg - 1

Workers Compensation Board
Cathy Hughston - 1
Rebecca Parker - 1
Paul Tamagi - 1

WorkSafe Solutions
Philip Wilson - 1

WorleyParsons Canada Services Ltd.
Perry Dalmer - 1
Sterling Rideout - 1
John Vincent - 1

WS Cusitar Consulting
Wayne Cusitar - 1

Rob Dowler - 1
Peter Dunfield - 3
Gail Shipowich - 1