



Executive Summary: Alberta Industrial Competitiveness Study

Overview:

The Alberta Steel Manufacturers (ASM) and Canadian Institute of Steel Construction (CISC), using a grant provided by the Government of Alberta (GOA), requested Ground State Market Solutions (GSMS) to undertake an empirical study to assess Alberta steel manufacturers total installed cost competitiveness versus offshore competitors. The study further sought to evaluate the relevance of Collaborative Project Delivery Models (CPDM) in heavy industrial projects.

GSMS used data from the last two historical growth periods in Alberta's industrial market (2004-2008) and (2009-2014) respectively. Five (5) industrial projects were used from the second cycle as previous total installed cost research has been undertaken by GSMS per cycle one. The study further posed research questions to industry experts to test the relevance and current uptake of CPDM in the industry. The study posits that Alberta major projects have long been hindered by cost and schedule overruns. Simply put, projects have not delivered the expected returns to shareholders. Given that market growth and stability in Alberta are tied to large scale resource development projects, this provides a major threat to the economy.

Cost and schedule overruns on major industrial projects are common throughout the world. Alberta has not been immune, with multiple factors leading to market underperformance relative to expectations.

The study identifies 3 factors related to steel manufactured goods that contributed to this result:

- 1) Total Installed Cost (TIC) economics were miscalculated and misunderstood in the procurement community. This study shows that Alberta Manufacturers continue to provide the lowest total installed cost when all factors are properly accounted for and weighted. The study presents a framework to understand and estimate TIC economics properly, and discusses the under-estimated risks associated with offshored supply.
- 2) Schedule slip is under-estimated or not estimated when procurement strategies are developed. The study delivers an empiric assessment of schedule slip compared to the promised benefits related to offshored goods.
- 3) Cost of tariffs, transportation, marshalling, non-conformance, de-containerization, and further processing of offshored material are not factored properly into procurement strategies. These factors are identified and expertly assessed. Tariffs are discussed as a possible hidden cost as the Canadian International Trade Tribunal struggles to deal with a five-fold increase in trade disputes under its purview.





Total Installed Cost Economics in Alberta's Major Projects

Alberta manufactured products:

- Provide the best value for shareholders
- Reduce the overall risk profile of major projects
- Reduce schedule slip

Specifically, and as outlined in detail in the report:

- 1) Empirically, Alberta manufactured products provide a TIC savings of 7.2 to 78.9 percent.
- 2) Schedule slip of 3 months for steel and pipe manufactured goods require a minimum of 26 percent savings to be NPV Neutral. Considering the added costs of transporting, marshalling, and construction offshored material, the offered discount that offshoring provide is minimal at best. The study shows the risks for offshoring, due the high complexity of Alberta major projects, are high. Properly weighing those risks is difficult and often overlooked, though regularly incurred.
- 3) Tariffs alone account for 1.9 to 138.7 percent increase in the cost of offshored material. These costs are not reflected in bids and are often not assessed until long after the procurement happens. These tariffs are a hidden cost, and given the current geopolitical situation the risk profile for offshoring goods is high.
- 4) The risks associated with offshore procurement should be allocated higher factors than current protocols use when comparing local to international supply. The cost of schedule and quality impacts of offshored products have not been properly graded and/or assessed in 2009-2014 procurement strategies.

In summary, Alberta manufactured goods may provide superior value into major projects, but much more needs to be done to create more shareholder value.

To date, it is important for all members of the supply chain (both within and outside the province) to assess best practices, and finds ways to better secure positive financial results. Without improved results, future investment in Alberta major projects may be at risk.

For more insight, please consider the related Daily Oil Bulletin article published April 2019

<https://www.dailyoilbulletin.com/article/2019/4/4/collaborative-construction-beats-offshoring-to-imp/>





Collaborative Project Delivery Models (CPDM):

Based on interviews conducted with 20 industry leaders, representing different parts of the supply chain, it is clear that early involvement, transparent requirements, risk/reward sharing, and collaboration are desired albeit not developed.

CPDM is viewed as the best way forward for Alberta's major projects and supply chain.

Alberta's major resource projects drive our economy. However, they involve complex systems that produce non-linear outcomes. Both positive and negative factors have an exponential effect on the project. Managing issues as they arise is a challenge for even the highest functioning team. As it stands today, the supply chain can be an antagonistic with internal and external stakeholders. Current practice compels each link/participant to be self-serving on account of the standard contracts in use, which can lead to inherent conflicts throughout the supply chain that are associated with distributive bargaining and exploitation.

CPDM has proven to be a solution to better projects results' through a healthier supply chain.

For example, CPDM is an emergent trend in the petrochemical sector and is entrenched in many parts of the commercial and institutional building sector. The GOA has played, and will continue to play an important role in CPDM, both as a first-mover supporting institutional builds that conform to CPDM, and to support industry as it adopts these best practices.

To learn more, please consider The Integrated Project Delivery Alliance <https://www.ipda.ca/>





Next Steps in Realizing Better Project Results:

To best provide the value Project Owner's are seeking, it is important for industry and government to understand that better project results are best achieved via CPDM, and that Alberta manufactured inputs, based on TIC economics, provide the best or most competitive solutions to Steel and Pipe supply.

Alberta manufacturers can market themselves as the best resource for schedule certainty as the industry moves forward, especially when CPDM processes are enabled.

As a direct result, GSMS, ASM, CISC and GOA recommend the following:

- 1) All levels of government must continue to develop programs that support Alberta manufacturers to be world leaders in best practices that are proven to increase competitiveness.
- 2) The outcomes of this study empirically point to the ability of Alberta manufacturers to produce the best value for resource development firms and their investors. The sector and government must disseminate this information to these communities to ensure the growth of Alberta manufacturing.
- 3) Alberta manufacturers should become accustomed to Collaborative Project Delivery Models. This includes contractual alignment, trust, transparent and accurate project objectives, and agreements that share risk.
- 4) Continued research into large scale industrial project dynamics is required to ensure that the Alberta Government and Alberta Industrial Manufacturers are best positioned to create value for new industrial construction and existing maintenance projects.

