

Commentary-Dave Pasolli-Western Wood Truss Association of Alberta

What happened to LEED?

I was having a conversation with a couple of our members recently and the subject of LEED came up. Back in the late 2000's this was a big deal and I still have a fat file on the subject from that time. In fact, I wrote a long article in the April 2010 WWTA newsletter about navigating LEED as there was a lot of confusion at the time dealing with specifications for buildings and questions from contractors. Component manufacturers were looking for FSC certified lumber that did not seem to exist, and trying to deal with chain-of-custody to satisfy requirements.



FSC Certified lumber that was used in trusses built by Star Building Materials for a school in Drumheller in 2010.

This helped the Architect achieve 1 point towards LEED certification.

Why LEED? Ever since the industrial revolution, human beings have been focused on production, and most of the time it was not conscious. The construction industry is consuming and impacting the environment. The challenges imposed by these negative impacts required more responsible actions, here is where green rating systems came in handy – we needed to measure our energy consumption, see where we are on the spectrum and how we can go greener. These green building certifications resembled an incentive to create more sustainable habitats that people would love to live in. Among these green rating systems is the renowned LEED.

It was a good idea, but there were certainly flaws in the original point based system. Plus the environmental movement message has shifted from energy consumption and conservation to the elimination of fossil fuels, green house gasses, and renewable energy. It is all about the carbon now.

There were also questions about the modeled environmental benefits vs. the actual results and flaws in the point system allowed builders to achieve certification by basically cheating the system.

The USGBC has long claimed that LEED-certified buildings use 25 to 30 percent less energy than non-LEED buildings. Those numbers originated in a 2008 study by the New Buildings Institute that was funded by the USGBC. John Scofield, a physics professor at Oberlin College, analyzed the same dataset and concluded that the LEED-certified buildings actually consumed more energy per square foot than comparable non-LEED buildings in the U.S.

The Bank of America Tower, a US\$1 billion project was designed by COOKFOX Architects and was advertised to be one of the most efficient and eco-friendly buildings in the world. Its construction was completed in 2009. It is the first skyscraper designed to attain the Platinum LEED Certification. However, various reports clearly indicate that the skyscraper is actually in no way energy efficient. It apparently produces the most greenhouse gases and uses more energy than any other office tower its size, in Manhattan, an author by the name of Sam Roudman reports in an article in 'New Republic'. He goes on to say that the certification is just being used as a status symbol & a marketing tool for the building, rather than aspiring to any sustainable practices.

Here is another article from the Green Building Advisor in 2011 [how-to-cheat-at-leed-for-homes](#) that pointed out some ways to game the system. I remember the example that the addition of a bike rack gave as many points as the use of FSC certified lumber, which one was easier?

“While an immense amount of effort went into the development of LEED, it was by no means a scientific process.” – C. Scheuer & G. Keoleian, Evaluation of LEED Using Life Cycle Assessment Methods, National Institute of Standards and Technology, September 2002.

I think one thing that LEED did do was legitimize green design and smart Architects and Developers now take the best of these concepts into consideration when designing buildings, but they also use some common sense. Now they are more focused on the requirements of the building or owner than achieving the plaque without going through the overwhelming process and paperwork.

Of course this is different than the publicly funded buildings where politicians love to cut ribbons and brag of achieving Platinum Certification on new buildings as a commitment to their climate emergency plans. The extra cost can easily be justified when it is tax payer dollars.

Unfortunately, the more status LEED gains, the more Federal departments and local governments begin to adopt it and provide tax breaks to incentivize it – the more that designers/developers will begin to blindly follow its requirements without truly questioning them at all. I find it funny that any project like a parking structure could be certified, and that certification could be obtained by getting points for bike racks, who rides a bike to a parking structure?

As Warren Cooksey, councilman for the city of Charlotte, North Carolina (then debating following LEED for its municipal buildings), put it: “The quickest way to fail to be a leader is to adopt someone else’s standard and follow it blindly.”

In fact outside of the United States, Canada ranked second in the world for LEED certified buildings in 2021 with 205 projects, ten years ago there were 136 projects certified in Canada, so the movement has not gone away.

Although we finished second in the rest of the world we are still trail the leader, the environmental leader of Mainland China with 1077 projects, good to know they are doing their part. When you look at the list it is kind of funny that countries that we generally think of as environmentally friendly like Sweden, Switzerland, and Germany don’t make the list.

LEED 2019 to LEED v4

But LEED has changed, and this why I actually think we hear about it less now, especially when it comes to wood.

In LEED 2009, the selection of wood products was recognized with a Certified Wood, Regional Material and Low-Emitting Materials-Composite Wood and Agrifiber Products credit for a total of three points. In addition, projects could pick up another voluntary credit by specifying Forest Stewardship Council (FSC) or Sustainable Agriculture Network-certified products.

Fortunately for forest product fans, the use of wood products can now contribute up to 12 points, accounting for more than 10 percent of LEED v4’s total credits. In fact, according to the U.S. Green Building’s Council’s recently released *Industry Materials Brief on Forest Products*, the “use of wood as a building material is among the most highly incentivized strategies in LEED.”-Hurray!

One of the sticky points with the wood industry was that when it came to wood they wanted to include the full life cycle, but with steel they looked at it as recycling old cars and not the impact of extracting the minerals from the earth. Thanks to the efforts of the

wood industry, FP Innovations, and the Canadian Wood Council the benefits of a lower carbon footprint of wood is now recognized.

Because materials and products with comparatively low environmental impacts fare well in v4's whole building life-cycle credit, wood is a front-line contender. It's renewable, creates habitat, sequesters carbon and has numerous applications in building projects.

Probably one of the biggest hurdles in using wood before was this requirement for FSC certification, if any of you tried to source wood with this certification; you know what I am talking about.

In 2016 LEED recognized CSA forest certification in the LEED process.

"This is great news" said John Dunford, Chair of PEFC Canada. "This new direction by the USGBC - that is inclusive of all forest certification standards demanding responsible forest management and insisting that wood products come from legal sources - is to be congratulated."

Wood and paper products that originate from forests certified to CSA meet the ACP tests as originating from responsible and certified sources. When combined with a PEFC chain of custody, these products also meet the ACP test for legal (non-controversial) sources.

That said, the forest products industry has also been the subject of criticism with regard to how the environmental impacts of wood products are being established and measured. The usual tree-hugger groups like the Sierra Club will continue to have a problem with the use of wood as they would not like to see any trees cut down due to the impact on the environment and indigenous issues.

The Future LEED Positive

USGBC will begin to define LEED Positive targets for LEED credit categories beyond energy and carbon. We will also communicate how LEED, as a holistic rating system, contributes to raising the living standard of people around by the world by supporting concepts such as ESG, circular economy, health and wellness, resilience and social equity.

That sounds like a little bit more than certifying buildings.

If you have an idea for a commentary or would like to submit your own commentary for a future newsletter please let me know at dave@wwta.ab.ca

Economic Update

Good News for Construction

According to [Calgary climate strategy pathways to 2050](#) we are going to have a lot of construction in the next 28 years. They assume that only 50% of the buildings we have in use today will still be in use in 2050. Seems a little low to me, but they want all buildings to be net zero in order to meet their target, so replacing most buildings makes sense.

Specifically, the plan calls for an **annual** deep retrofit to net-zero emissions of 19,000 dwellings and 317 commercial buildings. To put it bluntly, this would mean 52 home retrofits every day, seven days a week, and roughly one commercial building per day, for the next 30 years. I am not quite sure how they expect this to happen.

May Housing Starts

According to Statistics Canada, housing starts in Alberta, seasonally adjusted at an annual rate, climbed by 15.2 per cent to a seven-year high of 46,456 units in May. Housing starts are now the highest they've been since March of 2015, one month before the NDP was elected in Alberta, coincidence?

In Alberta, urban housing starts totaled 3864 in May 2022, a year-over-year increase of 33%. Canadian housing starts were slightly lower over the same period. In Alberta, single-detached units, which comprised 35.0% of all units; increased by 15.8%, while apartment units, which comprised 43.7% of all units, increased by 49.5%.

Calgary starts were up slightly from 1511 in April, while Edmonton starts were also up from 1667 units last month. Although Canadian starts were similar to the same month last year YTD starts are down 9%.

Housing Starts Alberta						
	May-22	May-21	% Change	YTD 2022	YTD 2021	% Change
Alberta	3864	2915	32.56%	13546	11613	16.65%
Edmonton	1771	1060	67.08%	6079	4800	26.65%
Calgary	1769	1581	11.89%	6242	5702	9.47%
Red Deer	17	28	-39.29%	48	77	-37.66%
Grande Prairie	29	19	52.63%	73	58	25.86%
Lethbridge	44	44	0.00%	390	303	28.71%
Wood Buffalo	21	3	600.00%	50	31	61.29%
Canada	22850	22098	3.40%	88565	97365	-9.04%

Strong job numbers in Alberta in May

The number of employed Albertans increased by 1.2% in May for a monthly gain of 28,000. This was the seventh consecutive increase.

The provincial unemployment rate also improved, falling from 5.9% in April to 5.3% in May. The number of unemployed Albertans fell to 131,600, the lowest since February 2015. Full-time employment rose by 3.2% (60,600) while part-time work decreased by 7.2% (33,100).

The professional, scientific and technical services (+10,800; +5.5%) and transportation and warehousing (+8,200; +6.6%) sectors were the main contributors to the gains in Alberta in May.

Nationally, employment increased by 0.2% (49,800) in May and the unemployment rate went from 5.2% to 5.1%.

Capital spending not quite a spree

Seasonally adjusted oil and gas extraction capital expenditures in Canada increased in Q1 2022 to \$7.7 billion, a \$2.6 billion (+50%) increase from the same quarter last year.

While investment has recovered since reaching a multi-year low in Q2 2020, spending in the sector remains below pre-pandemic levels. Relative to Q1 2020, investment was down by \$0.5 billion (-6%) and was \$13.2 billion (-63%) lower than the peak set in Q4 2014.

Historically, oil prices have played an important role in decisions to boost capital expenditures with higher prices typically associated with increased investment.

For example, in the first quarter of 2014, companies posted capital expenditures of \$19.6 billion, while the Western Canadian Select (WCS) price index averaged \$83/bbl (in Canadian dollars). But, even with WCS averaging C\$103/bbl during the first quarter of 2022, spending in the sector was relatively muted at \$7.7 billion.

There are many factors at play here, including the economic uncertainty brought on by Russia's invasion of Ukraine, global efforts to lower carbon emissions, increased efficiency, and pipeline capacity constraints. So far, the sector has been focused on using its improved revenue flow to pay down debt or return money to shareholders rather than on capital projects to boost production.

Crop prices up again in April

Driven by world supply disruptions, strong demand and tight supplies, nationwide farm prices moved higher in April.

The price of canola (including rapeseed) received by Alberta’s farmers grew by 6.8%, averaging \$1,044 per metric tonne in April compared to \$978 in March. This was the seventh consecutive monthly increase in canola prices.

Driven largely by geopolitical disruptions, wheat prices (excluding durum) rose by 3.9% in Alberta in April. This was the twentieth monthly increase in a row.

On a year-to-date basis, both canola and wheat prices were up by 61% from the same point in 2021.

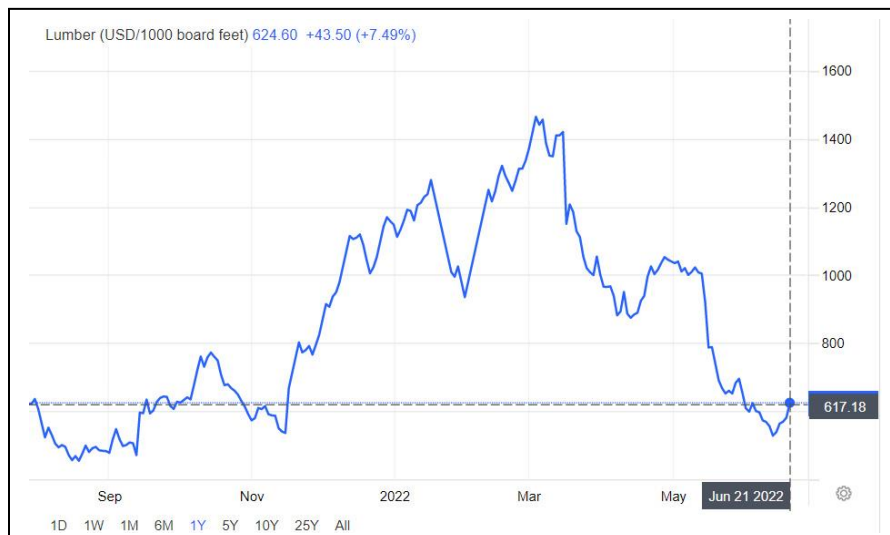
The higher prices are good news for Alberta farmers and will help offset higher costs for fuel and fertilizer, but are adding to the cost of food at the consumer level.

ATB has some interesting Podcasts available including the latest with our old friend Todd Hirsch talking with Michael Brown, President of Trico Homes.

[ATB the Future Of](#)

Lumber

Chicago lumber futures were trading above the \$550-per-thousand-board-foot mark as investors took a breather from an impressive selloff that pushed the commodity to a level not seen since September 2021. However, any upside momentum should be short-lived, with lumber prices now down roughly 50% from their March peak as rising interest rates and sky-high inflation have dampened construction demand. Housing starts in the United States sank 14.4% over the previous month in May of 2022, the most since April 2020, while new home sales declined 16.6% from a month earlier to a seasonally adjusted annual rate of 591,000 in April of 2022, the fourth month of falls, and the lowest level in two years.



[Record Fuel Prices Forcing Shutdowns Threaten Entire US Timber Supply Chain](#)

Quality Control

This month I am going to talk about an area of your company that some may not consider quality control, but it most definitely is.

Handling, Storage, and Delivery

This element accounts for 5% in the current WWTA Alberta quality audit and 10% in the CSA S349 Standard. If you keep records of your customer feedback you will also know that it is an area that you are most likely to get negative feedback about and if your company does not do a good job with will cost your money. As I often say “Builders may not call you if a plate is out of alignment, but they sure will if there is damaged or missing product”.

Are finished trusses kept off the exposed ground?

Even if you have a nice paved yard you need to make sure that trusses are kept off the ground so that they are not in contact with water or snow and to avoid damage when being moved. Even if it is just for a short time period! Dunnage should not be more than 10' apart.



Trusses stacked vertically and horizontally

Is there any indication of damaged trusses?

If there is any damage to trusses due to moving them around like forklift stabs or broken overhangs it should be caught prior to shipping. It is a lot cheaper to address the problem before the trusses ship than do a field repair. Plus if you catch the damage in your yard the customer will not see it and have an opportunity to back charge.



Damaged trusses prior to delivery

Are trusses marked as per your company policy?

Your company should have a policy on how to label the trusses and follow it. The most typical method is the old Jiffy Marker, but I do see some companies doing a more professional job that just makes the package look better. You also want to make sure that the labels are all in the same place, so that the building inspector can see the truss type. Every truss must have a label. If there is more than one bundle, label the bundles as well.

Also make sure that you are applying the WWTA stamp with your plant number as per your policy.



Job and Bundle Numbers

Truss Tags

Is there a review of trusses prior to shipping?

There should be a checklist to review the package prior to shipping. If there is not you are basically at the mercy of the customer as to where any damage occurred. A lot of companies now take pictures of the package prior to shipping and after delivery so that they can prove that the package was delivered in good condition and complete.



Using a checklist



Taking pictures of delivered product

Is there a process to document and review any delivery issues?

If there are any delivery issues the delivery driver should report them upon delivery. This way they can be addressed before the builder installs them, again saving any back charges and confrontations with your customer.

If a customer informs you that there is damaged product that is not their fault it is important that a form be filled out to document it so that it can be reviewed at your Q.C. meeting and to make sure that it does not happen again.

Quite often trusses will be moved at the jobsite by the contractor resulting in damage, but if you document how you delivered them you may not only avoid back charges from the builder, but potential liability after the building is complete.



*Trusses moved by the builder
into the mud*

Are trusses moved without damaging them?

Trusses should be moved limiting the amount of deflection that occurs because this can lead to plate withdrawal. The forks should be wide enough so that the trusses do not deflect.



Proper lifting equipment for long trusses

If you do have trusses that have been exposed to the weather and are grey, they should be reviewed by a supervisor or engineer to determine that they are still in good shape.



Trusses left exposed to the weather



Trusses not stored properly

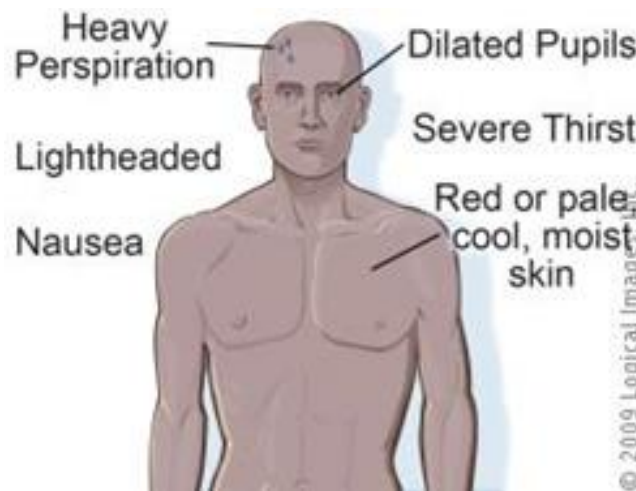
For more information on handling, storage, and delivery check out modules 503,504, and 505 on www.trustrainingonline.com.

Health and Safety Toolbox

Similarly to the quality topic the WWTA would like to give you a monthly item you can discuss when doing your Safety Toolbox meeting.

Summer is finally here so it is a good time to review **working in hot weather**.

It is important the workers and employers review the hazards of working in heat and be able to recognize the symptoms of heat stroke.



What are the warning signs of heat stroke?

In a very hot environment, the most serious health and safety concern is heat stroke. Heat stroke can be fatal if medical attention is not available immediately. Heat exhaustion and fainting (syncope) are also types of heat related illnesses which are not fatal but can interfere with a person's ability to work.

The victims of heat stroke are unable to notice the symptoms when they are happening to themselves, and therefore, their survival depends on co-workers' ability to identify symptoms in others, and to get medical help.

While symptoms can vary from person to person, the warning signs of heat stroke can include complaints of sudden and severe fatigue, nausea, dizziness, lightheadedness, and may or may not include sweating. If a co-worker appears to be disorientated or confused (including euphoria), or has unaccountable irritability, malaise or flu-like symptoms, the worker should be moved to a cool location and get medical help immediately.

What should be done when it is very hot?

Employers have a duty to take every reasonable precaution to ensure the workplace is safe for the worker. This duty includes taking effective measures to protect workers from

heat stress disorders if it is not reasonably practicable to control indoor conditions adequately, or where work is done outdoors.

Certain steps can be taken to reduce discomfort. These include:

- using fans or air conditioning
- wearing light, loose fitting clothing
- taking more frequent rest breaks
- drinking cold beverages (ones that do not have caffeine or alcohol)
- allowing flexibility to permit less physically demanding activities during peak temperature periods.
- using screens or umbrellas to create shade.

OHS Alberta has a very extensive publication on working in heat and cold and it can be viewed and downloaded at:

<https://www.alberta.ca/working-extreme-temperatures.aspx>

The Canadian Center for Occupational Health and Safety also has some good resources.

https://www.ccohs.ca/oshanswers/phys_agents/max_temp.html

The Alberta Government has a new format OHS eNews you can subscribe to with all kinds of good material at: <https://ohs-pubstore.labour.alberta.ca/>

News and Events

The Western Wood Truss Association of Alberta would like to welcome Timber Wolf Truss Ltd. to the association. When you get a chance please reach out and welcome President John C. deRegt.



John deRegt Sr. started Timber Wolf Truss in 2002 in a small shop behind the lumber yard at Wolf Creek Building Supplies. Through perseverance, determination and prayer,

the business grew over the years. His sons became part of the business and learned a lot about trusses, relationships, and running a business.

In 2009, a new facility was built allowing the business to grow substantially. The facility was three times larger than the previous one with a larger yard. This allowed Timber Wolf Truss to increase sales and provide better service to their customers. With John's sons out of high school, they were able to manage and continue to grow the business.

In 2014, automated equipment was purchased to further increase capacity, efficiency and quality. A night shift was also started to keep up with increasing demand.

John and Angela deRegt purchased the remaining shares of the family business from John deRegt Sr. in 2018. John works as director/president of the company, while Angela supports him and focuses on their four beautiful children at home.

John and Angela are thankful for the opportunity to own a family business and hope that one day it could be passed on to the next generation as well. They have been blessed through the years and thank God for all He has done for them and their family.

NBCC 2020

Farm Buildings

For those of you that were on our last WWTA Conversation call with Chris Cordogiannis from MiTek, you heard him talk about the changes to farm buildings coming in the next building code.

I have the feeling that this may come as a surprise to some of your customers that build this type of building regularly without much oversight by a building designer.

Farm buildings now fall under the NBCC 2020 in Division B Part 2, but they are limited in size to 600 m² or 6,480 ft².

1.1.1.1.3) Farm buildings not more than 3 storeys in building height and not more than 600 m² in building area used for major occupancies classified as Group G, Division 1, 2, or 3 agricultural occupancies shall conform to the requirements of the National Farm Building Code of Canada 1995.

So if the building is over 600 m² it basically goes into Part 4.

2.3.1.1.1) Except as otherwise provided in this Section, the structural design of farm buildings shall conform to Part 4. (See Note A-2.3.1.1.(1).)

Part 2 Div. B. Summary

Farm Buildings with a footprint greater than 600 sq.m (approx. 6500 Sq. Ft) Group G Div. 1, 2, 3 & 4 will have to be designed to the requirements of Part 2 NBCC2020

- NO NFBCC-1995 farm code
- 1/50 Year Snow load
- Loss of Load sharing for spacings > 24” oc
- Loading requirements will default to Part 4 except for the slippery roof factor Cs, will have same equation as previously used in NFBCC

Part 9

In Part 9 there have also been some changes and it looks like this:

9.23.14.11. Roof Trusses

1) Wood roof trusses shall be designed in accordance with good engineering practice such as that described in TPIC 2019, “Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses.”

2) The joint connections used in trusses described in Sentence (1) shall be designed in conformance with the requirements in Subsection 4.3.1. (See Note A-9.23.14.11.(2).)

3) All member bracing shall be installed as per the truss design drawings, and continuous lateral bracing shall be adequately anchored to the roof and ceiling diaphragms at intervals no greater than 6.10 m o.c.

Of course if you have been paying attention to me, it should come as no surprise that TPIC 2019 has this clause:

8.2 Quality control program

All fabricators shall have a recognized quality control program that complies with the requirements of CWTA, “National Quality Standard for Metal Plate Connected Wood Trusses.”

If you would like a copy of the pdf file of Chris’s presentation just contact me.

LP Building Solutions and Pacific Woodtech Enter Acquisition Agreement for LP's Engineered Wood Products Business and SolidStart® Brand.

[More](#)

Virtual Meetings

One day we will get back to meeting in a room I hope, but in the meantime if you have any topics you would like the WWTA to hold a virtual meeting on please let me know.

WWTA Online Training

If you have not yet taken a look at the WWTA online training program I would encourage you to, as no doubt you will be hiring new workers in the near future and it is a good method to get them productive earlier and safer. If you want an overview of the program go to the WWTA website at: <http://www.wwta.ab.ca/truss-training-online.html>

Did You Know?

Another change that is going to be in the 2020 building code has to do with the old clause about the minimum lateral bracing in Part 9.

ABC 2019 9.23.14.11 (Current)

- 3) Where the length of compression web members in roof trusses described in Sentence (1) exceeds 1.83 m, such web members shall be provided with continuous bracing to prevent buckling.
- 4) Bracing required in Sentence (3) shall consist of not less than 19 mm by 89 mm lumber nailed at right angles to the web members near their centres with at least two 63 mm nails for each member.

NBCC 2020 (New)

- 3) All member bracing shall be installed as per the truss design drawings, and continuous lateral bracing shall be adequately anchored to the roof and ceiling diaphragms at intervals no greater than 6.10 m o.c.

It is expected that the NBCC 2020 will be adopted in Alberta before the end of 2022.