

# Report on Manitoba's Model Building Code and Tier Adoption

## Executive Summary

A clear path to rapid adoption of higher Tiers for energy efficiency will set Manitoba up for success. Doing otherwise exposes Manitobans to competitive, economic, financial and environmental risks for decades to come. Conservation after all, is the cheapest form of energy.

Sustainable Building Manitoba is an advocate for adopting the 2020 National Building Codes at the highest tier possible. We recognize the need to collaborate with industry and build a long-term plan for better building codes recognizing the current state of the industry.

To better understand where the building sector in Manitoba is at, we conducted 15 semi-structured interviews, hosted several group discussions, and solicited feedback via email. All aspects of the Manitoba building industry were represented in this process: residential and commercial construction companies, energy advisors, energy efficiency advocates, building code experts, building material manufacturers, training institutions, and civil servants from a few jurisdictions across Canada.

The picture that was painted through these consultations allowed us to develop a balanced recommendation for what tier Manitoba should adopt, and recommendations for how the Province should support industry in transitioning to better building codes.

**Sustainable Building Manitoba recommends adopting the new building codes at Tier 3 for NBC Part 9.36 homes (single-family residential), and at Tier 1 for all other buildings covered by the NECB, with a plan to upgrade to Tier 2 within 2024.**

Through our consultation process we determined that many single-family homes are already being built to a Tier 3 standard. Energy efficiency programs offered by Efficiency Manitoba for new buildings have been available for a number of years, and large portions of the residential construction industry have adapted to take advantage of them. The workforce training and development required to build to Tier 3 was said to be minimal.

On the commercial side (NECB buildings), we heard a lot of concern that anything higher than Tier 1 would represent a shock to industry, although we also heard that it would not be too costly or require much additional training to transition to Tier 2. For this reason, we're recommending adoption at Tier 1, with a plan to move to Tier 2 by 2024. Most of the people we consulted thought one construction season was sufficient time to adjust from one tier to the next. Above all, industry wanted regulation to be predictable, so they have time to adjust their business. This

requires the development of a clear, incremental pathway to the highest Tiers for both the NBC and the NEBC.

The Province also has a convening role to play in supporting movement upwards through the tiers. We're recommending the establishment of a Building Code Implementation Task Force at the provincial level to help coordinate and ensure readiness. The most important lesson we can learn from BC's experience implementing a Step Code is that building buy-in with industry is crucial, and that implementing standards beyond what industry is ready to deliver is a recipe for failure. The role of the task force can be seen as an oversight role, ensuring that all the elements required for movement to the next tier are in place: workforce readiness, compliance / permitting practices, and supply chain issues. The task force can also assist by directing funds from the soon-to-be-announced Federal Net Zero accelerated building code adoption fund to the areas of our construction industry ecosystem that need it.

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## BACKGROUND:

Sustainable Building Manitoba applauds the decision to accelerate the adoption of the 2020 National Model Building Codes.

Sustainable Building Manitoba urges the Government of Manitoba to adopt the 2020 National Model Building Code at the highest tiers possible, while recognizing the current state and capacity of the industry to transition to new ways of working. It's also essential to create a transparent plan to move rapidly upwards through the tiers.

The benefits of adopting the 2020 Codes at the highest tier possible are clear.

### **Economic Development**

Firms in British Columbia win contracts for high-performance buildings outside their home province because they have experience working under more stringent codes. More aggressive code adoption helps position our companies to better compete abroad. We are also well-positioned to increase our market-share in construction materials. Manitoba used to have one of the leading fenestration industries in the country. While it is still strong, creating a more robust local market will help this industry expand and increase exports.

In the long run, a more energy efficient building stock improves the economy in another way - less money spent on energy means more money to spend in the local economy. The benefits of increased dollars spent in building construction at the outset however, does have a 1.6 to 1.7 multiplying effect in the economy; similarly each million dollars of increased input to construction creates more than 7 jobs for Manitobans (ref: Statistics Canada. [Table 36-10-0013-01 Input-output multipliers, summary level](#)).

### **Meeting GHG Targets**

Many municipalities in Manitoba have set targets for emissions reductions, and energy use by buildings makes up almost 20% of Manitoba total GHG emissions. While municipalities have the freedom to make their owned municipal buildings as energy efficient as they choose, they have limited authority over the quality of their general local building stock because the province sets code, not municipalities. Some suggest that municipalities can address this by establishing financial incentives to build above code, but that would overburden already cash-strapped municipalities and also create inconsistencies between jurisdictions.

A higher tier code for all would support municipalities in meeting their targets, and when the Province sets its own emissions targets, they will support that as well.

### **Future-Proofing our Building Stock & More Financial Savings**

Energy efficiency requirements are only going to get more stringent over time. Building to the standard of the lower-tiers creates risks that that building will be regarded as sub-standard in the future, requiring significant retrofits to meet standards in the future. To be successful in

addressing climate change, we will need to electrify home space and water heating in the next decade or two. New buildings that do not anticipate these changes will create significant costs for the building owners of the future. We know the cheapest time to build to a high standard of energy efficiency is at initial construction, and buildings built to a higher code tier make running a building on electric heat affordable. Fossil gas heating systems installed today are at risk of needing to be replaced before their service life is over. Buildings built to higher code tiers makes it affordable to install electric heating today and making buildings as efficient as possible makes electrical heating more affordable.

Manitoba already has one of the nation’s oldest building stocks and the last thing that we need is to add more that will need to be retrofitted in the future. NBC applies to renovations or additions to any building built under the current 2010 code, which again is helpful to reduce the need for future retrofits and all their added expenses. Home owners should not need to, for example, pay for the windows from the initial build and then a few years later pay for another set of higher performing windows when right now, by adopting a higher Tier, we have the opportunity for them to only need to buy the one set.

Training Manitoba’s workforce for the higher Tiers would help to prepare for the retrofit economy as the skills acquired in high performance new construction are highly applicable and easily transferred to retrofit work on existing buildings. For context, Winnipeg’s Community Energy Investment Roadmap highlights the magnitude of retrofits that are required: “Starting in 2022, retrofit 100% of all existing dwellings built before 1980 by 2035, in order to improve thermal and electrical efficiency by 50%. Starting in 2035, retrofit 100% of all remaining buildings by 2050, to improve thermal and electrical efficiency by 50%.” ([pg 54](#)).

Net Zero emission codes are expected in 2024 and higher Tier adoption would help Manitoba prepare.

### **Saving Money for Manitobans**

Housing is not affordable if it isn’t energy efficient. Ensuring the building stock of the future is energy efficient will reduce energy poverty over the long term.

Most new homes continue to rely on gas due to its relative affordability when compared to electric resistance heat but significant volatility in the cost of natural gas over the past year make it hard to predict prices in the future. The carbon tax however is more certain with scheduled increases every year until 2030. This alone translates to an additional \$700 annual cost per home in 2030 (based on average Manitoba household consumption reported by Canada Energy Regulator for 2015:

<https://www.cer-rec.gc.ca/en/data-analysis/energy-commodities/natural-gas/report/canadian-residential-natural-gasbill/index.html>).

Year	2023	2024	2025	2026	2027	2028	2029	2030
Minimum Carbon Pollution Price (\$ CAD/tonne CO <sub>2</sub> e)	\$65	\$80	\$95	\$110	\$125	\$140	\$155	\$170

We can begin to mitigate these costs by ensuring a higher level of energy efficiency in new buildings.

It cannot be denied that there is a crisis in affordable housing. We also recognize that there are additional costs to building more energy efficiently and those costs will most likely be passed onto consumers. The provincial government should continue to work with other levels of government to bring in policies to address housing affordability. As outlined, there is no cheaper time to make a building energy efficient than at the time of initial construction and doing so will save money in the long term. Any added costs cannot be an excuse to implement a lower Tier. As these codes only apply to new builds, the majority of existing housing stock will not be impacted and retrofits of those buildings are supported by programs at various levels of government to help keep them affordable.

If there are added costs, the increase in PST revenue on new builds could go into general revenue or be rebated to purchasers to reduce their upfront costs.

The anticipated premium for greater energy efficiency in buildings can be mitigated through proactive training and preparation. With or without preparation however, previous policy and regulatory requirements have shown that the premium reduces over time as the industry and market rapidly adapts. Increased skill and competition optimizes costs and the consumer in the end reaps the benefit of a superior building for a competitive price.

## **Public Health**

Keeping Manitoba's current code amendment requiring energy recovery ventilators (ERV) for homes is an important measure not only to ensure we don't go backwards in energy efficiency but also to ensure that fresh air in homes is maintained for the health and well-being of their occupants. With airborne diseases such as COVID-19, we have seen how incredibly important a high standard of indoor air quality is.

## **Our Research**

Sustainable Building Manitoba consulted a wide range of stakeholders to gather information relating to which tier Manitoba should adopt, how quickly we should move up the tiers, and what support industry needs to successfully navigate this transition. The information gleaned from these consultations allowed us to develop recommendations that balance the need for forward momentum on energy performance in new buildings with what is feasible given the realities we face in Manitoba.

We conducted 15 semi-structured interviews, hosted several group discussions, and solicited feedback via email. Groups and expertise represented in these consultations include:

- Commercial energy modelers
- Energy advisors and energy advisor trainers
- Building insulators

- Code trainers
- Efficiency Manitoba
- Manitoba Homebuilder's Association
- Winnipeg Construction Association
- Manitoba Building Trades
- Construction Association of Rural Manitoba
- Manitoba Climate Action Team
- Building code developers
- Efficiency Canada
- Manitoba Architects & Engineers
- Manitoba-based building material manufacturers
- Manitoba high performance homebuilders
- Manitoba homebuilders
- City of Vancouver staff
- SBM's Board of Directors and committees, members and sponsors

## RECOMMENDATIONS:

The following is divided into two sections. The first is a discussion of what tier of the National Model Building and Energy Codes should be adopted in Manitoba. The second section considers how the Province of Manitoba might assist in the implementation of the code to ensure a smooth transition.

### Energy Code Tiers

Our consultations revealed that there are differing levels of feasibility and industry readiness across the residential and commercial building sectors. For that reason we're recommending a blended approach, where a higher tier is recommended for section 9.36 buildings than for buildings covered by the NECB.

#### **NBC 9.36**

Sustainable Building Manitoba recommends that for section 9.36 for small buildings, Manitoba adopts Tier 3 energy performance standards. We heard from many homebuilders in the province that they are already building at or close to a Tier 3 level of energy performance. Gio Robson, President of prairieHOUSE performance confirmed that most homebuilders in the province are already building single-family Part 9 homes at or close to a Tier 2 level, with some builders already routinely building at a Tier 3 level. Builders at these levels were able to achieve Tier 3 performance without a major cost burden or challenging changes to building envelopes and mechanical systems.

The fact that building to this standard is already widespread demonstrates a high level of workforce and supply chain readiness. Any additional training required to transition to this tier would be minimal. Manitoba Building Trades is already training workers to a Passivehaus standard, which is much more rigorous.

As the 2020 Code stands now, Tier 3 is “reserved” and requires an energy model to demonstrate compliance. While this would be a new and additional step in acquiring building permits, there is capacity to meet this demand. Manitoba-based energy advisor firms who do this kind of modeling have advised that their workers are currently *underemployed*. NRCan confirms the current number of registered Energy Advisors in Manitoba is 32 and Red River Polytechnic currently has an additional 18 enrolled in their course. NRCan has funded two major Energy Advisor training programs in Manitoba, one with Manitoba Environmental Industries Association and the other with the Manitoba Metis Federation, both of which are prepared to expand enrollment numbers as required. In addition to securing a supply of new energy advisors to meet demand, adopting any tier lower than Tier 3 for 9.36 buildings jeopardizes the momentum of this workforce development. Additionally, if the energy modeling requirement for Tier 3 code compliance is deemed to be excessive, the Government of Manitoba also has the option of developing its own interim prescriptive pathway for Tier 3 ahead of its development by the Federal Government.

**Table 9.36.8.2.**  
**Energy Performance Tiers**  
Forming Part of Clause 9.36.8.2.(1)(a)

Energy Performance Tier	Minimum Sum of Energy Conservation Points
1	(1)
2	10
3	Reserved
4	Reserved
5	Reserved

**Table 9.36.7.2.**  
**Energy Performance Tiers for Buildings and Houses**  
Forming Part of Sentence 9.36.7.2.(1)

Total Volume of Conditioned Space Within the Building or House	Energy Performance Metrics	Target Energy Performance				
		Applicable Energy Performance Tier				
		1	2	3	4	5
> 300 m <sup>3</sup> and where volume is not determined	Percent heat loss reduction <sup>(1)</sup>	n/a	≥ 5%	≥ 10%	≥ 20%	≥ 40%
	Percent improvement <sup>(2)</sup>	≥ 0%	≥ 10%	≥ 20%	≥ 40%	≥ 70%
	OR Percent house energy target <sup>(3)</sup>	≤ 100%	≤ 90%	≤ 80%	≤ 60%	≤ 30%
≤ 300 m <sup>3</sup>	Percent heat loss reduction <sup>(1)</sup>	n/a	≥ 0%	≥ 5%	≥ 15%	≥ 25%
	Percent improvement <sup>(2)</sup>	≥ 0%	≥ 0%	≥ 10%	≥ 30%	≥ 60%
	OR Percent house energy target <sup>(3)</sup>	≤ 100%	≤ 100%	≤ 90%	≤ 70%	≤ 40%

## NECB - Tier 1 with Tier 2 adopted in 2024

Sustainable Building Manitoba recommends that the NECB be adopted at Tier 1, with a plan and public commitment to upgrade to Tier 2 in 2024. We heard from many people in the province that it is crucial to start at Tier 1 to avoid shocking the building industry, but these same people recognize that it would not be costly or require much additional workforce training to get everyone to Tier 2. We know higher performance codes are feasible, because almost every other province in the country is already operating under building codes more progressive than ours.

In the 2020 NECB, no prescriptive compliance path is provided for the NECB tiers, only a performance path. This will require energy modeling.

**Table 10.1.2.1.**  
**Energy Performance Tiers**  
Forming Part of Sentences 10.1.2.1.(1) and (2)

Energy Performance Tier	Percent <i>Building Energy Target</i> <sup>(1)</sup>	Percent Improvement <sup>(1)</sup>
1	≤ 100%	≥ 0%
2	≤ 75%	≥ 25%
3	≤ 50%	≥ 50%
4	≤ 40%	≥ 60%

### [NECB 2020](#)

Neither tiers 1 nor 2, would shock the industry if adopted as proposed. Doing so would still move Manitoba towards national and international climate and energy targets and would help return Manitoba to a place of leadership in energy efficient building, especially regionally. Additionally, it benefits our workforce as they will be more competitive nationally and could attract work to the province.

Aggressive code adoption is also critical for consumer protection as the energy efficiency of their building has major impacts on the value and cost of operation. The degree to which a building is energy efficient from the outset has significant cost implications that they otherwise have no current control over later in the life of the building.

Currently, Manitoba broadly uses natural gas for heating, and so switching to clean electricity to heat our buildings will play a role in achieving provincial climate targets. All that being said, the fact that summers are getting warmer cannot be ignored. Electricity is the main source of energy for cooling which is an added draw to the already ever increasing demands for power. The more energy efficient the building, the less energy it uses. This frees up energy for other uses including the electrification of transportation and switching more buildings off of natural gas.

There is widespread acknowledgement that if we stay at Tier 1, not only would it be a step back from what the industry can currently provide, but that it would also hamper Manitoba's ability to deliver buildings for future Tiers. Many think we are ready to go to Tier 2 immediately.



In our consultations, we found that there are different firms and builders working on residential and commercial projects. Therefore, the two sectors being on different tiers would not be an issue. In fact, this approach is common practice in other jurisdictions.

Our recommendations will return Manitoba to a place of leadership. This will create a sense of pride in the workers for the projects they produce.

## The Roadmap

A roadmap is critical to moving quickly through the Tiers. Industry needs predictable regulation and timing to make adjustments to their business operations; this requires the development of a clear, incremental pathway to the highest Tiers. It is important to move through the Tiers of the code quickly due to the urgency of climate change. Most people we consulted thought one construction season was sufficient time to adjust to the next tier, and with the proper support and planning in place we could increase by one tier level per year. Rapid transition towards net-zero energy codes will save Manitobans money through the life of the building, and make it available to be spent in the other sectors of the Manitoban economy. Manitoba is well-positioned to be one of the provinces that is an early attainer of net zero energy ready building code.

This pace of tier transition would put us at Tier 5 (NBC Part 9) and Tier 4 (NECB) in 2027, around the time we expect the next round of National Model Building Codes to be ready for implementation.

### **BUILDING BUY-IN**

Helping the commercial and residential building industry adapt to delivering high performance buildings and a predictable, long-term roadmap for building codes is crucial. We know from the experience in British Columbia that implementing standards beyond what industry is ready to deliver is a recipe for failure. Developing building energy literacy can help to address consumer and industry buy-in. One way of doing so is publishing the results of energy audits on new homes to help builders understand that they are already on track for these codes and that it should not be intimidating or considered a major change.

Building buy-in with consumers is also important. We recognize that higher-performance buildings come with a higher price tag, but these homes will have a lower total cost of ownership due to better durability and lower energy costs. Sustainable Building Manitoba is already working on the consumer education issue and would be pleased to collaborate with any such initiative the Province is interested in.

### **WORKFORCE DEVELOPMENT**

Many of the skills required to build at the higher tiers are already widespread among workers in Manitoba, but we will need a strong workforce development program to ensure the needed capacity is available and that we can continue to move up through the tiers.

There are multiple ways to plan for and improve education on the code. While the Province does not need to be responsible for delivering all this training directly, it needs to ensure that adequate training is available. This may require funding education programs. RRC Polytech and Engineers Geoscientists Manitoba have taken a leadership role on code education. Their existing programs may need to be supported and expanded. While some of these code presentations are already planned to be recorded so that it can reach a wider audience and with interest, more can be recorded at RRC's own onsite studio. Manitoba could partner with other provinces to pool resources to develop training modules. As well, trainers could be trained by Federal officials or by trainers in more advanced provinces like British Columbia. As well, there is content produced by the Federal Government that is easily accessible. With support and coordination from the province, the trainers are confident they can ensure workforce readiness.

Education should emphasize that code is a minimum standard and that buildings can and should go above code minimums. It's also important to recognize that the environmental loads in the Building Code are based on historical data from the past, and that the load assumptions will change with a changing climate. Training owners and designers to identify goals (e.g. how long a building is intended to be in operations) will help to ensure that there is alignment in approaches.

Vancouver city staff shared some of the practices they used to successfully navigate the transition for the BC Step Code:

- Describing the end goal of Net Zero Ready homes by 2030 in presentations to many and diverse stakeholders, builders, architects, designers, suppliers, window manufacturers, building owners etc to set the stage, and say this is coming and we want to work together to be prepared.
- Offering training for energy advisors
- Offering training for builders, both with HAVAN (Homebuilders Association Vancouver), at a local Sikh temple (Vancouver has a very large Sikh builder community), and at local material suppliers. Staff noted it was important to go to people where they are physically. Events held at City Hall were more poorly attended.
- Where possible, the training lead should be someone from industry, or someone from industry should at least share the stage and co-train. They believed that people with decades of experience in industry would be reluctant to listen to someone from the government try and train them.
- Passive House training was offered to a segment of building inspector staff to ensure in-house expertise was present. Other training on, for example, high-performance window inspections was offered to all staff. This training was held in partnership with Fenestration BC.

- Offered subsidized training on air tightness and passive house training at the British Columbia Institute of Technology.

We heard that there is a need for more energy modelers in Manitoba. Energy modelers are required at the design stage to determine how to make a building satisfy performance-based energy efficiency standards, and at the permitting office to ensure compliance. The existing workforce is willing to support mentorship programs in this area. There is also a need for more courses to train commercial energy modelers. There is currently no formal accreditation for energy modelers though Engineers and Geoscientists and Manitoba Association of Architects have issued practice guidelines that energy models must be sealed by an architect or professional engineer for commercial builds. In addition to courses, an apprenticeship model or the creation of formal credentials could be explored.

Training needs to include a whole building approach as trades have reported that one trade often does not understand the work of the other resulting in negative impacts on another trade's work.

For smaller companies or independent contractors, the expense of certain equipment required for energy auditing can be a barrier. A program that allows for renting or shared use of blower doors for example could lower the barrier to entry for smaller companies or independent contractors.

The new Federal Net Zero accelerated building code adoption fund has been announced to assist in the transition. We offer the services of Sustainable Building Manitoba to help with the accelerated adoption in whatever way can be useful. We know of other groups that are also willing to help.

Potential training partners include:

- Red River College Polytechnic
- Manitoba Building Trades
- Manitoba Environmental Industries Association
- Manitoba Construction Sector Council
- Manitoba Métis Federation
- Manitoba Building Officials Association
- University of Manitoba
- Engineers Geoscientists Manitoba
- Winnipeg Construction Association
- Manitoba Homebuilder's Association
- BUILD
- Purpose Construction
- Atoskiwin Training and Employment
- University College of the North

Many of these organizations are already working on related training, but the Province could serve as a convener to confirm who is doing what, in what timeline, and to ensure there are no gaps in the ecosystem. The province's Chief Building Official used to do this consulting and coordinating work and more, however that position has been vacant for the past 4-6 years with the leadership gap being felt industry wide.

This moment of action can also be an opportunity to re-examine standard practices. For example, we heard that the conventional approach of design, bid, build is not working well for industry. This siloed process is reported to increase costs and lower the likelihood of a building performing as intended. An integrated design and planning approach can be taught as part of the training to ensure buildings are both properly built and are high performance.

Education can reduce compliance issues and reduce resistance to code changes. Increased understanding of building code requirements would lead to better construction standards, thereby protecting consumers.

## **COMPLIANCE**

Industry has reported that there is a need for better and more enforcement to ensure compliance with energy and building code. We will also need a method to ensure that energy models produced for new buildings are valid for the performance-based pathways.

The Canada Green Building Council (CaGBC) conducts reviews of all energy model submissions, some of which are completed by third party reviewers hired by the CaGBC. They conduct an initial two hour review, with a further one hour review for second submissions. Occasionally more time is granted for a review, however, this is not the norm.

Efficiency Manitoba already conducts this kind of review for their New Buildings Program and could potentially play an oversight role or administrative role. An analysis would need to be done to see if they have the capacity to take on this role, and the nature of the arrangement between municipal code offices and Efficiency Manitoba would need to be negotiated. Efficiency Manitoba could also establish a program to provide mentorship opportunities to strengthen Manitoba's energy modeling workforce.

We also heard concern among trade workers about the quality of work. Having well-trained building inspectors could help ensure that work is done properly and that buildings perform as designed. A clear articulation about when inspections need to happen is also important to ensure that inspections don't require having to undo work. A review of staffing levels is also necessary to ensure reasonable timelines for project completion.

Mandating inspections in more trades specialties is something the province needs to explore in more detail. For example, Insulators (Heat and Frost) are key for energy efficiency, however, the trade doesn't have the support of the AHJ (Authorities Having Jurisdiction) inspector(s) to

ensure code requirements and the installation best practices are being followed. Inspectors need to work more closely with project managers to understand when they need to be onsite to do an accurate inspection of specific work.

Lowest-bidder practices are one of the biggest barriers currently in the construction sector, and are already resulting in buildings that are not being built to the standards requested by the owner. For example, low bid system is a hindrance as it creates a model to be expedient at everything usually suffering is the quality of installation, sub-par products not specified being utilized, or changes being made to the project during construction to cut costs. Industry studies of capital projects demonstrate that the most successful projects have a high degree of team integration, and the project team is highly cohesive. The critical factors for selecting an integrated and cohesive team are qualification-based selection, early involvement of the contractor in the design phase, and cost transparency. High standards of compliance are needed in the sector and this is an opportunity to shift how things are being done. High Tier adoption helps break the “business as usual” mentality and creates the opportunity for these critical shifts.

In too many areas of the industry, code training is not mandatory; this needs to change. It is surprising to think that an inspector would not be familiar with the energy codes but that is an unfortunate reality. Manitoba building inspectors have a wide range of backgrounds so in some cases it is unrealistic to think they can upskill in the allotted time frame to be able to cover this area. To overcome this barrier, independent energy auditors can be used to confirm compliance so long as it is not the same person or firm that did the original model. This would be very easy for the province to enact, especially given the fact that there is already a growing energy advisor sector in the province.

Manitoba might also look at promoting the use of clerks of the work, as they are known in the UK or building engineers in BC. This role is separate from the General Contractor and can help ensure specs are being met. They can be shared across multiple projects.

## **ESTABLISH A CODE IMPLEMENTATION TASK FORCE**

British Columbia credits some of its success at implementing a step code to having a venue for industry to help address issues as they arose. Industry participation is key, and knowing where they can bring concerns is essential. BC saw an initial failure to bring in step codes and blamed it on a lack of consultation and collaboration with industry.

For example, energy modelers have noted that it is a challenge for multi-unit residential to reach NECB Tier 3 in Manitoba. Where does that discovery go? How does it get addressed? That needs to be clear for industry and it needs to be able to be acted on to ensure that barriers are removed and knowledge gaps are closed.

We need to have people around the table talking and helping with implementation. This taskforce will need to have clear terms of reference on what their role is and transparency with

their actions. A refreshed mandate could include the development of a plan to move up through the higher tiers, and to support the implementation of that plan. Secretariat support from the province's Chief Building Official is essential; having that position filled and functional is critical.

Transition to the highest tiers of the 2020 code is possible. In this webinar hosted by Sustainable Building Manitoba, speaker Bob Deeks shared some of his experience from BC, to help with implementation and compliance including the establishment of such a board and: <https://youtu.be/tnpUU3WfL7Y?t=1323>

## **PERMITTING**

There is a general impression that the adoption of higher tiers could result in delays at the permitting office. The people we consulted didn't anticipate that higher tiers would result in longer delays at the permitting office, so long as appropriate training is provided. Delays are mostly a result of staffing levels, and where possible it would make sense to increase staffing complements.

In Vancouver, the adoption of the performance path from the BC step code did not cause any permit delays because they designed the new process such that it did not create any additional steps. They maintained a prescriptive minimum (unique to Vancouver) and that is what their plan checkers verify before issuing a permit. The performance attributes are audited with the inspections group after the permit is issued.

To help with more complicated permits, Vancouver opted to train a few specialists to help get projects approved. This reminds us that not all staff need the same level of expertise which helps lower the training barriers.

## **NORTHERN MANITOBA**

Arguably the place that requires buildings to be most energy efficient in the province is Northern Manitoba with their low temperatures and the current challenges with the energy efficiency of existing building stock. High energy bills are a massive problem in Northern Manitoba and by adopting a higher Tier, there is the opportunity to stop the problem from expanding.

Already there are a number of successful training programs where students learn through building and then remain in their communities. These can continue and perhaps have some added investment to expand the program- First Nations should be consulted directly to determine the best path forward.

Until there is local capacity with energy advisors, workers from the south will need to go north. However, it should be fairly easy to train up northerners given that much of the training can be done online with only a few key dates requiring in person attendance.

The need for these actions are not Tier dependent, however adopting a higher Tier does help make clear the need for immediate action.

## **SUPPLY CHAIN**

In our consultations, concerns about supply chain issues were highlighted as a reason to adopt lower Tiers. We subsequently reached out to conventional and high performance builders and manufacturers alike who said that these are not the issues that they once were and do not see this as a barrier to higher Tier adoption.

When it comes to selecting materials, the Canadian Standards Association standard for Building Durability (CSA-S478) is currently referenced in the National Building Code in the Appendix but would do better to be in the Table of Standards for higher visibility. Using durable materials is one of the ways to save building and homeowners money in the long term and help to future proof buildings.

## **SUMMARY**

Manitoba has an opportunity to learn from the other jurisdictions that have decided to adopt more progressive building codes and help our province make significant advances in energy efficiency, carbon emissions, sustainability, and innovation without mis-steps. This is also a consumer protection issue for buyers of speculative homes who will not have a say on how energy efficient their tract home is. The less efficient the home, the more it will cost them in the long run. Investment in mandatory training across sectors will be one of the key components in ensuring success and compliance - fortunately Manitoba has much of that groundwork laid to deliver training. The development and adoption of a clear roadmap for Tier adoption with rigorous evidence-based energy, air-tightness and embodied carbon targets would be an excellent economic driver of highly skilled jobs, new businesses and technological innovation.

The recommendation to adopt Tier 3 for Part 9.36 of the NBC and Tier 1 advancing to Tier 2 in 2024 for the NECB is not a stretch for industry, as confirmed by many different players across the sector.

A clear path to rapid adoption of higher Tiers for energy efficiency will set Manitoba up for success. Doing otherwise exposes Manitobans to competitive, economic, financial and environmental risks for decades to come. Conservation afterall, is the cheapest form of energy.