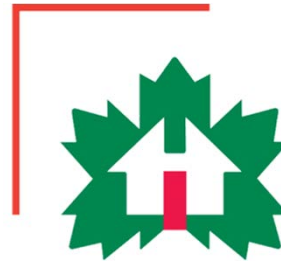


*Appeal for  
processing  
PCF 1617*

- Canadian Home Builders' Association presentation to the Appeal Committee of the Canadian Commission on Building and Fire Codes
- September 1, 2021



Thank you Mr. Chair and good day everyone.

My name is Kathleen Maynard, and I am the Senior Director of Building Innovation at the Canadian Home Builders' Association. I represent CHBA as a key stakeholder member of the Canadian Commission on Building and Fire Codes. I will be speaking today regarding CHBA's appeal on the proposed change PCF 1617 – Tiered Energy Performance Compliance **[01]** with Frank Lohmann, CHBA's Director of Building Science. Also on the line from CHBA are Jack Mantyla, our Director of Technical Services, and Liz Wynder, our Technical Advisor, Codes and Standards, who represent CHBA as a key stakeholder member on the Standing Committee on Housing and Small Buildings and the Standing Committee on Energy Efficiency.



## Overview

- About CHBA
- The process appeal
- Where do we go from here?
- Supporting speakers



CHBA appreciates the opportunity to speak to the Appeal Committee today. To put things in context, we will provide you with information about CHBA and what has happened that has put us here before you today. We'll also speak to the aspects of our process appeal, and provide our suggestions on what needs to be done next.



## About CHBA

### Who we are

- The voice of Canada's residential construction industry
- 9,000 member companies across Canada including thousands more employees
- 5,800 builders, developers, contractors and renovators —mostly SMEs
- 50+ local and provincial associations

### TOTAL ECONOMIC IMPACTS OF RESIDENTIAL CONSTRUCTION

New home building, renovation and repair



1,244,635

#### JOBS

On and off-site jobs – one of the largest employers.



\$81.1bn

#### WAGES

Dollars that show up in purchases across the entire local economy



\$138.1bn

#### INVESTMENT

Built investment value is the largest single wealth-builder for many families.

Since 1943, the Canadian Home Builders' Association (CHBA) has been the voice of Canada's residential construction industry. CHBA's some 9,000 member companies include home builders, renovators, land developers, trade contractors, product and material manufacturers, building product suppliers, lending institutions, insurance and warranty providers, and other professionals providing homebuilding, renovation and related services in every province and territory.




## About CHBA

### How we work

- Members meet locally, provincially and nationally
- CHBA national committees and councils
- External participation—codes and standards organizations, non-profit groups, government initiatives, academic institutions
- Local, provincial and federal elected officials and staff

Our members meet locally, provincial and nationally. At the national level, we have 7 committees and councils that focus on different aspects of our industry. CHBA's Technical Research Committee is most heavily involved in our codes and standards participation. Our Net Zero Energy Housing Council, Modular Construction Council and Canadian Renovators' Council also bring advice from our members across Canada to our codes and standards work.



## About CHBA

### CHBA participation in code development

- A key stakeholder member of CCBFC
- We have supported the code development process for a long time
- Members and staff participate in standing committees, task groups and working groups
- Members participate individually as experts in the subject
- CHBA staff participate representing the broad base of members and all regions
- We rely on the code development system to consider our input in balance with the advice of the provinces and territories

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First, I'd like to explain a few things about CHBA that are important in the context of this appeal.

As I said earlier, CHBA is a key stakeholder member of CCBFC.

CHBA has supported the national code development system for a very long time because of its adherence to strong principles and its strong processes with an openness to all viewpoints.

We participate in good faith and members and staff contribute to the tasks of standing committees wherever we can.

Our builder members participate individually and bring their individual input to committees, working groups and task groups as experts in the subject.

Our staff participate representing the consensus view of our 9000 member companies in all regions. The information CHBA staff bring to the development of codes and standards is based on the input of, and vetted through, our local, provincial and national committees and councils. Our national committees and councils include representatives from all of our provincial associations, who bring the consensus view of members from their regions to the national table.

And before I go into the details of the appeal...I would like to state something else that is very important that we would like you to consider as context for why we are so insistent on the process steps—and that is that **we rely on the national code development system and its processes, policies and procedures to consider industry's input in balance with the advice of the provinces and territories.** It is the industry that delivers on the objectives of the national codes and provincial/territorial regulation. The industry needs to be able to comply with requirements that are put into regulation, just as building officials need to be able to enforce requirements.



## Process appeal

- What happened
- The aspects of the appeal
  - Impact analysis
  - Direction, advice and public review—airtightness testing
  - Cross-committee coordination

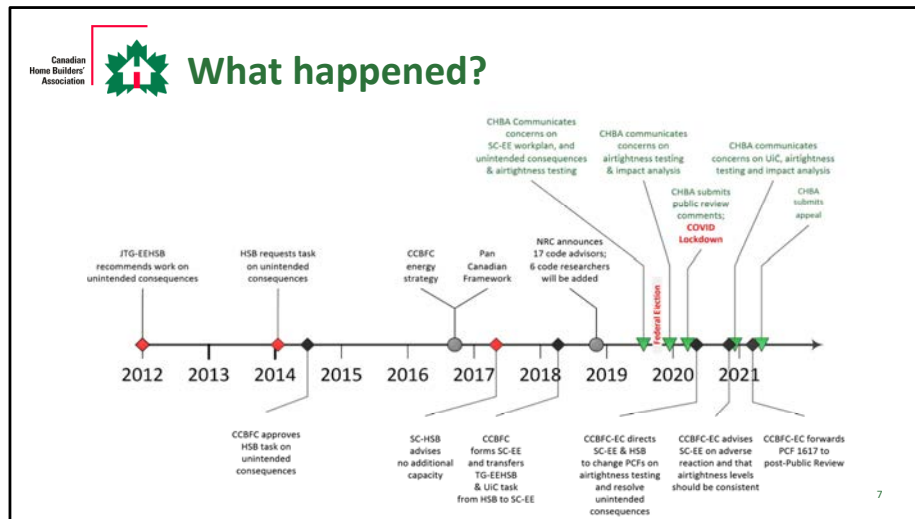


So what has brought us before the appeal committee today?

As a long-time, committed participant in Canada's national code development system, CHBA deeply regrets having to use the appeal process to address our concerns.

Unfortunately, however, we felt that we had no other choice. When we submitted the appeal last March, we hoped that these matters could be addressed before PCF 1617 was presented to the CCBFC for approval **[28]**—if we had waited until the August CCBFC meeting there would have been no time to resolve the issues in time for the publication of the 2020 codes at the end of this year.

In the next slide, I'll go through the timeline of pertinent actions that led up to the appeal we submitted last March.



This story actually begins with the development of the energy-efficiency provisions in the code in 2012. The Standing Committee on Housing and Small Buildings had unfinished work left at the time of publication. They had not reached the energy-efficiency target hoped for by the provinces and territories. They assessed—by consensus—that the requirements went as far as they could go safely, and that additional investigation was required before they could move safely to more ambitious targets. This is documented in meeting packages and memos. [02],[03]

In 2012, the Joint Task Group on Energy Efficiency in Housing and Small Buildings recommended this investigation be done before going further. In January 2014, the Standing Committee on Housing and Small Buildings asked for the task to be added to its workplan, and in April 2014 the Commission approved the task. [04], [05],[66]

That same year, the Commission approved and published its policy position paper—the CCBFC Long-Term Strategy for Developing and Implementing More Ambitious Energy Efficiency Codes [07]. This was shortly before the release of the federal government’s Pan-Canadian Framework on Clean Growth and Climate Change, which committed funding to the goal of having the provinces and territories adopt a net-zero energy ready model building code by 2030. [08]

In 2017, the Standing Committee on Housing and Small Buildings advised the Commission it had no additional capacity to take on the work to develop the energy-efficiency provisions in part 9 further, and asked for direction on its priorities and workplan [09]. After considering various options, the Commission decided to disband the Standing Committee on Energy Efficiency in Buildings, and the new Standing Committee on Energy Efficiency was formed to develop provisions for both the National Energy Code for Buildings, and for the National Building Code Part 9.36, which contains the energy-efficiency provisions for housing and small buildings. [10].[11]

At the same time, that task from 2012—to address the potential unintended consequences identified by the JTG in relation to the existing provisions in 9.36 before moving to more ambitious targets—was transferred from the Standing Committee on Housing and Small Buildings to the new Standing Committee on Energy Efficiency, with the TG on EEHSB. [11]

But in 2018, SC-EE members assigned a low priority to this task, citing schedule and resource issues.[21]

At the CCBFC meeting in December 2018, the National Research Council announced that a portion of the new federal funding for “free” codes would be allocated to bolster staff resources with the addition of 17 codes technical advisors and 6 codes researchers. This was great news and we hoped this would help us get the work done! [12]

But let’s not forget that there was a federal election in 2019. While the Commission exists independently of the federal government, this affects the activities of the public service, which supports the Commission’s activities. And there is no doubt that the global pandemic has affected everyone’s ability to work efficiently. The deadline for submission of comments to the Winter 2020 Public Review was March 13, 2020—that same day was the last day most people worked in their offices before the COVID lockdown was announced.

I want to point out that CHBA has not come in at the end of the code cycle, on the eve of publication, to raise our concerns. CHBA has been communicating our members’ concerns with comments and presentations to committees, working groups and task groups on the subjects in the aspects of our process appeal **continually** since 2012. And since 2019, we have submitted correspondence repeatedly—we submitted the correspondence [11],[12],[13],[14],[15],[16],[17] each time because the *Commission’s* repeated direction and advice to the Standing Committee on Energy Efficiency did not appear to be understood.

I would also like to reiterate that submitting the appeal [01] was in no way an effort to delay or halt publication of the 2020 codes. None of CHBA’s actions has been taken in an effort to delay the code development process. [24]

As I mentioned up front, we participate in good faith. Our members are among the volunteers who contribute countless hours of their personal time to the development of codes. Our members and our staff, just as Codes Canada staff, have worked intensely to prepare for and participate in countless meetings—most intensely and in some very uncertain and challenging times over the past two years.

We make a significant investment in this process, because we know it is important. We do not take it lightly.

In February of this year, since SC-EE and SC-HSB had not fulfilled the Executive Committee’s previous (repeated) direction to them to resolve the issues associated with PCF 1617, we were very surprised that the Executive Committee decided to forward the PCF to post-Public-Review. [20]

So as I said earlier, we made the very difficult decision to submit an appeal [1]. If we had waited until the August CCBFC meeting, when the energy-efficiency PCFs were slated for decision, there would have been no time at all left to resolve the issues in time for the scheduled publication of the 2020 codes at the end of this year.





## The aspects of the appeal

The CHBA process appeal is based on three aspects

1. **Airtightness testing**—that the intent of the direction and instructions issued by the EC to SC-EE, and the policy advice received from PTPACC on airtightness testing was not fully adhered to
2. **Impact analysis**—that impact analysis was not fairly assessed and properly published on the PCF
3. **Cross-committee coordination**—that proper cross-committee coordination processes had not taken place before an SC recommended approval of a PCF to the CCBFC

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Once we submitted the appeal [1], we worked with the Acting Deputy Chair to try and resolve the process concerns, and we agreed to Codes Canada's request to extend the 30-day resolution period, hoping that the commitment would be made to complete the outstanding work immediately. We had several meetings to clarify and discuss our concerns and some progress was made. [24]

However, on July 28, 2021, the Deputy Chair provided us with the June 20, 2021 memo from HSB to SC-EE [22] and the July 16, 2021 report from SC-EE to the Commission [23], which clearly showed that SC-EE had no intention of adhering to the Executive Committee's previous direction and completing the code development process on PCF 1617 before publication of the 2020 codes, and the HSB WG on CCC confirmed it had not enough time to complete its work. Again, we felt we had no recourse but to proceed to this appeal hearing.[22], [23]

The process appeal we submitted had three aspects. The first aspect we'd like to discuss is our process concerns involving airtightness testing and the significant changes that were made after public review in relation to that. We'll then discuss our process concerns regarding impact analysis and cross-committee coordination.

Just to flag for clarity so we don't throw anyone off—these are the same three aspects put forth in the official notice of appeal, and in our letter of appeal, but we're presenting them in a different order than they were presented in those documents. We are hoping it will help make this very complicated story a little easier to sort out.

As the notice of appeal states, on airtightness testing, we are appealing that the intent of the direction and instructions issued by the Executive Committee to SC-EE, and the policy advice received from the Provincial Territorial Policy Advisory Committee on Codes (PTPACC)—which included several memos from the Executive Committee to SC-EE [17], [18] and staff announcements at SC-EE meetings not to mandate airtightness testing—was [not] fully adhered to (SC-EE has set a policy in the revision of the PCF after public review to penalize those for whom testing for airtightness is not available or affordable—without due process).[26]

SC-EE maintains that it is not necessary to follow this direction and advice.**[23]**

On impact analysis, we are appealing that impact analysis for the revised PCF 1617 was [not] fairly assessed and properly published on the PCF, including the cost of airtightness testing in rural and/or remote areas and the cost of making up for the airtightness testing penalty at higher tier performance with additional prescriptive alternatives (e.g. adding insulation).**[19]**

SC-EE has confirmed this work was not done.**[26]**

And finally, on cross-committee coordination, we are appealing that proper cross-committee coordination processes had [not] taken place before a standing committee recommend[ed] approval of a PCF to the CCBFC (SC-EE Terms of Reference).

SC-EE maintains that the PCF is ready for publication **[27]** although the SC-HSB has confirmed that this work is not complete.**[22]**

I will now turn the mic over to Frank Lohmann to walk us through each of the aspects of the appeal. Frank will discuss what the policies and procedures tell us should be done, what evidence shows was done, and what work still appears to be outstanding. Over to you Frank.



## Airtightness Testing

- What is supposed to be done
- What was done
- What still needs to be done



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Thank You Kathleen

Good morning, good afternoon everyone.

My name is Frank Lohmann, and I am the Director of Building Science at the Canadian Home Builders' Association.

Currently, I am not a member of any committee of the Canadian Commission on Building and Fire Codes.


However, I have started representing CHBA as an observer on committees working on issues towards the 2025 codes.

But – as a matter of full disclosure – before I joined CHBA in May 2020, I worked for 20 years at Codes Canada, applying the code development process.

As Kathleen said, for each aspect of our appeal, I will now review what we understand should have happened based on the CCBFC's Policies & Procedures and based on committee communications.

Then comparing that to what was actually done

And highlighting what – in our view – still needs to happen to adhere to and complete the code development process on PCF1617



## Airtightness testing

What is supposed to be done

- Policy
  - SCs follow the advice of the provinces and territories, and translate this into technical requirements
- Significant revisions to PCFs
  - Significant technical revisions need to go to a new public review, UNLESS
  - The revision will not cause adverse public reaction

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The first issue is on airtightness testing.

In this case, what was supposed to be done is very simple:

There are two critical principles here.

The first is on setting policy:

- Policy is the domain of the provincial/territorial building safety authorities **[31]**
- SCs of the national code process have no mandate to develop policies, impose penalties or provide incentives
- The EC receives policy advice from PTs and relates this to its Standing Committees
- SCs follow this advice and translate it into technical requirements

The second principle important in this aspect of the appeal, is what happens when significant revisions are made to PCFs after public review.

These need to be sent out for a new public review, unless the Committee can justify that there will be no adverse reaction.

This is especially important when new requirements are introduced with high cost implications. As an aside, “high cost” is considered one of the policy items in the P&Ps.



## Airtightness testing

What is supposed to be done

- 17.8.3 In response to comments on a *proposed change* that has not been directed to the CCBFC in accordance with Article 17.8.1, a standing committee or the Executive Committee:
- a) recommends with accompanying rationale that the CCBFC:
    - i) proceed with the *proposed change* as originally proposed;
    - ii) proceed with an *editorial revision*;
    - iii) proceed with a revised version of the *proposed change* if, in the committee's view, such action would not result in substantial adverse reaction from the public; or
    - iv) withdraw the *proposed change*; or
  - b) defers the *proposed change* for reconsideration including possible resubmission for public review in revised form, and reports this deferral action to the CCBFC.

CCBFC Policies & Procedures 2016

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And here you see the excerpt from the CCBFC policies and procedures which provides clear direction on what happens when a PCF is revised after public review. The Standing Committees' choices are clear.

In the case of a significant revision (which is clause a) iii) ) the committee has to prove that there will be no substantial adverse reaction due to the revision.**[32]**

I would also like to point out here that – for very significant changes or where completely new requirements are introduced – the proposed changes are typically resubmitted to another public review.

This happened a couple of times this code cycle for the proposed changes for farm buildings and for mass timber construction.



## Airtightness testing

### What was done

- Policy mandate
  - SC-EE's reports and correspondence repeatedly maintains it is not necessary to follow the direction and advice of the Commission and the provinces and territories
- Significant revisions to PCFs
  - SC-EE introduced a significant technical change without scientific evidence or assessment of cost implications after public review
  - SC-EE did not submit the change to a new public review
  - SC-EE is aware of potential adverse public reaction and can therefore not justify the change with the absence of adverse public reaction.

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OK – let's have a look at what was done by SCEE on this subject:

Regarding the issue of policy advice, SCEE repeatedly ignored or dismissed direction from the EC and then, when SCEE finally followed the direction to remove mandatory airtightness testing, SCEE introduced a costly, punitive policy to incentivize airtightness testing, instead.

Under the item of significant revisions to PCFs, what really happened is that

- SCEE introduced a significant technical change after public review that had no basis in scientific evidence, and that included significant cost implications. **[33]**
- The revised proposed change including this new requirement was not sent to a new public review.
- SCEE has stated it is aware of adverse public reaction (in both directions, actually), so the Committee cannot justify the significant revision with the absence of adverse public reaction. **[27]**



## Airtightness testing

### What was done

4. Believes that some adverse public reaction may result from any change to airtightness testing requirements, and the Standing Committee has made efforts to balance the interests of those in support of more stringent requirements with those interested in maintaining the status quo.

[SCEE Memo to EC – Jan 14, 2021 – Revisions to PCF 1617 on airtightness testing](#)

- 12.4.4 Committee decisions are based on the "consensus" principle whenever possible. Consensus is substantial agreement of members, includes resolution of all significant concerns and technical disagreements, and implies much more than the concept of a simple majority but not necessarily unanimity. Consensus requires that all opinions be considered and weighed and that any statement of committee agreement should be reached only after full and fair discussion of the issues involved. Negative opinions deserve careful consideration by a committee.

[CCBFC Policies & Procedures – 12.2.4. Conduct of Meetings - Consensus](#)

The first excerpt on this slide is from a memo, which SC-EE wrote to justify the significant change.

In it, SC-EE acknowledges that it is aware of adverse public reactions.

This shows that consensus has not been achieved. [27]

We would also like to state here, - regarding the last sentence of that first excerpt – that CHBA is not arguing for the status quo here, but for developing codes that work for all regions and construction types. The status quo happened to provide acceptable solutions for all, which are now taken away. Whereas, the currently proposed airtightness regime incentivizes testing by penalizing those who cannot test or for whom testing imposes very significant cost per house.

The second excerpt shows the CCBFC's definition of consensus and the emphasis it has on resolving negative opinions



## Airtightness testing

### What was done

#### PCF 1617 (Tiered Performance Requirements)

The Chair of the TG presented the PCF. He indicated that

- percentage improvements for Section 9.36. of the NBC are aligned with the programs that are already in the market
- tier 1 does not require using the airtightness test results. However, the test is required to get the industry ready for the next tiers
- the PCF puts limits on the energy consumption of overall building and the building envelope
- separate envelope performance requirements are meant to ensure that the envelope is not overlooked.

SCEE Minutes – approval of PCF 1617 – May 15, 2019 – airtightness testing

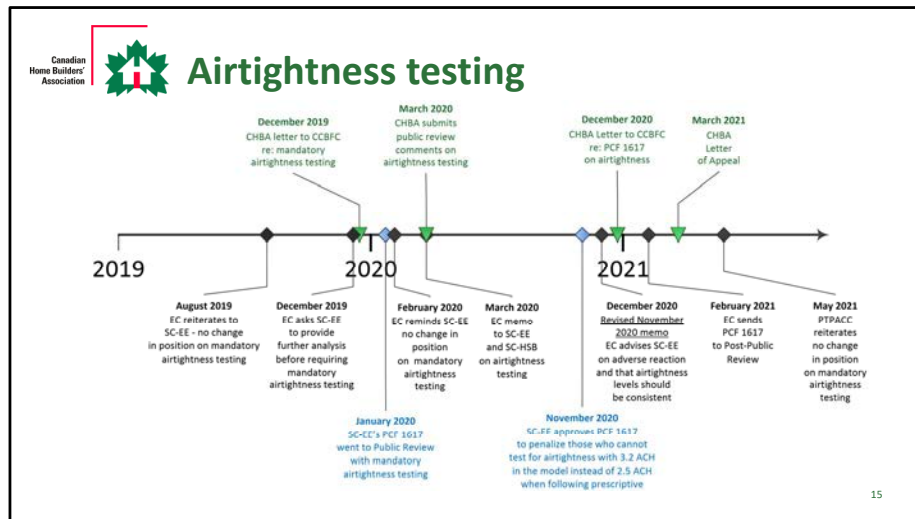
The fact that SCEE tried to use code development to achieve other policy goals is highlighted here

This excerpt from the 2017-03 meeting minutes shows that SCEE is using PCF 1617 to “ready the industry for the next tiers” – in other words, create requirements to test for airtightness even if the results are not used.[35]

Where this requirement for testing is not followed a hefty penalty in the assumed airtightness of the house is then imposed – without any relation to any construction feature – just because a test was not used.

This is clearly a policy goal of professional training that has no place in national building codes. Training and Education is in the policy and administration domain of the PTs.[36]





OK – let’s look at a timeline.

If you look at the black text and milestones that refer to EC activities, this timeline highlights how early and repeatedly the EC sent a clear signal on the subject of airtightness testing:

- From August 2019 to November 2020, the EC consistently advised, directed and reminded SC-EE of the specific policy advice received to not make airtightness testing mandatory [17],[18],[37]
- This advice did not change [38]
- Even PTPACC reiterated – as late as May 2021 – that its position on airtightness testing has not changed.[30],[37],[39]

This timeline also highlights that CHBA has frequently communicated its concerns on this issue to CCBFC including a detailed letter in December 2020 [13],[14],[15],[16],[19] outlining the implications that this costly, punitive approach would have on rural and remote construction. Of course, CHBA had also made this point to SC-EE and all its Task Groups and Working Groups, but was dismissed.

Lastly, the timeline highlights that – in February 2021 – the EC forwards PCF 1617 to the next process step, despite SC-EE not having completely followed the EC’s advice to create a consistent level playing field for airtightness testing, and without having resolved this issue.[20]

The timeline also shows (in blue) that SCEE sent the PCF to public review including mandatory airtightness in some compliance paths, despite clear guidance from the EC with a good lead time.[40]

This means that - what would happen here for the first time – if not corrected – is – that a CCBFC standing committee would get away with setting a policy in a national code.



## Airtightness Testing

### What still needs to be done

- The penalty for not conducting an airtightness test should be removed, in keeping with the direction and advice of the Executive Committee and the provinces and territories
- Prescriptive requirements for tiers 3, 4 and 5 need to be developed
- The proposed change should be sent to a new public review
- The cost of the technical changes after public review should be fully assessed and reported

So what needs to be done on this issue?

The penalty for not conducting an airtightness test should be removed, in keeping with the direction and advice of the Executive Committee and the provinces and territories. What also still needs to be done is to add prescriptive requirements for tiers 3, 4 and 5, which would allow an alternative to airtightness testing for the higher tiers.

The cost of the technical changes after public review should be fully assessed and reported. **[42]**

With significant technical changes, the PCF should be sent to a new public review. **[32]**



## Impact Analysis

- What is supposed to be done
- What was done
- What still needs to be done



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Next we are talking to impact analysis, probably the simplest of the appeal issues.



## Impact analysis

### What is supposed to be done

- In the CCBFC process, for each change SCs:
  - prepare cost-benefit analysis (17.7.5., P&Ps)
  - commensurate with the complexity of changes (Principle 2, Appendix G)
  - present clear, transparent information on PCF (Principle 21, Appendix G)
  - if a change is revised,
    - assess cost-benefit impact of revisions after public review
    - correct the analysis so that the final PCF sent to CCBFC is correct and complete

For each change, the P&Ps require SCs to prepare a cost benefit analysis (17.7.5) **[42]**


The complexity of the impact analysis has to align with the complexity of the technical changes (Principle 2, Appendix G) **[43]**

The SC has to present clear, transparent information on the PCF (Principle 21) **[44]**

It can also be assumed, that the CCBFC wants to see complete records and accurate information in a PCF when it approves them.

In other words, if the technical information does not align with the impact analysis, the record the CCBFC would approve is incorrect.

It follows therefore, that the the impact of technical revisions after public review should be identified on the PCF presented to CCBFC.

 **Impact analysis**

What is supposed to be done

17.7.5 *Proposed changes issued for public review are accompanied by the existing provisions, rationale, (including information on costs, benefits and enforcement implications), and the applicable objectives and functional statements.*

CCBFC Policies and Procedures (2016) – 17.7.5. costs, benefits, etc

*Principle 2:  
The level of complexity of the impact analysis should be proportional to that of the proposed change.*

*Principle 21:  
The costs and benefits analyses should be transparent and clearly stated so that stakeholders can easily compare them with their particular purposes in mind.*

CCBFC Policies and Procedures (2016) – Appendix G – Impact analysis


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Here are the text excerpts from the P&Ps for those of you not intimately familiar with the P&Ps

At the top, you see Clause 17.7.5 speaks to each change requiring a cost benefit analysis Principle 2 in Appendix G speaks to the complexity of the impact analysis being proportional to the complexity of the technical changes – there is also a chart in the back of Appendix G that explains this.

Principle 21 in Appendix G speaks to simplicity, clarity and transparency

These rules and principles imply that the impact analysis on a PCF should be updated if significant technical revisions are made after public review.



## Impact analysis

What was done

- Before Public Review (SC-EE)
  - impact analysis was summarized on PCF 1617 ☑ Done
  - complex analysis was available on request by email to CC staff ☑ Done (sort of)
  - summary simply and clearly describes total cost for tiers ☑ Done (sort of)
- After Public Review (SC-EE)
  - SC-EE made significant technical changes to PCF 1617 regarding ☑ Done
    - airtightness testing affecting rural/remote locations
    - changed envelope target metrics
    - small house relaxations
  - SC-EE updated cost/benefit impact of revisions ☒ Not done

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When we look at what was done for PCF 1617 on impact analysis, many principles and process steps were followed.**[45]**

Except the last one of updating the impact analysis with significant changes introduced after public review.

In light of the previous discussion on airtightness, you know now that the penalty of forcing those who do not conduct an airtightness test may have significant implications—for example, additional insulation may need to be installed to make up for the loss of airtightness credit for testing.

This additional cost for a newly introduced requirement is not reflected in the PCF. **[29]**



## Impact analysis

### What was done

Table 2 presents the estimated incremental cost impact for each tier, by housing type. Cost impacts reflect the total costs of meeting all of the tier requirements, including air-tightness, building envelope performance improvement, overall performance improvement, and peak cooling.

Table 2: Estimated per-unit incremental costs relative to NBC 9.36 prescriptive requirements.

	Electrically-heated homes (\$/unit)					Gas-heated homes (\$/unit)				
	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
Single Attached	-400	200	2,600	5,600	20,200	-200	1,500	2,000	5,100	18,000
Detached	-800	1,200	3,900	10,200	30,100	-600	2,100	3,600	8,900	30,800
MURB Quad-plex	-500	1,200	3,900	5,400	23,000	-600	2,800	3,500	5,400	14,500
10-unit	-1,900	1,600	2,100	3,500	14,700	-2,000	900	2,400	3,200	13,900

PCF 1617 – post-Public Review – 2021-01-14

21

Instead, the PCF's impact analysis still reads exactly like it did before the public review.**[29]**

“that it reflects the total costs of meeting all of the tier requirements, including airtightness”

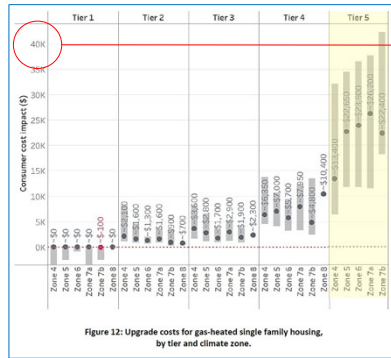
Neither the text nor the cost or benefit values were updated after public review.

The summary also does not say that the costs in Table 2 are averages across a wide variety of housing types.

The detailed report includes ranges of cost for tier 5 that go up to more than \$40,000 in some climate zones for some housing types.**[46]**

## What was done

Excerpt of "PCF-1617 Impact Assessment"  
 Prepared by: Alex Ferguson, Julia Purdy and Rasoul Asaee,  
 NRCAN, Buildings & Renewables Group  
 Dated: September 12, 2019  
 Page 30/31 under 5.3 Tier 4 and 5 feasibility



Here is a graphic from page 30 of the impact analysis report from NRCan that includes ranges of cost for tier 5 that go up to more than \$40,000. [46]





## Impact analysis

### What still needs to be done

- The effect of the revisions to the PCF after public review needs to be assessed.
  - the true cost of
    - airtightness testing in rural and/or remote areas and
    - making up for the airtightness testing penalty with added insulation or other measures

So, to sum it up, the effect of the revisions to the PCF after public review needs to be assessed.

The true cost of airtightness testing in rural and/or remote areas and making up for the airtightness testing penalty at higher tier performance, including adding insulation or making up the difference otherwise, needs to be assessed and noted. **[33]**



## Cross-Committee Coordination

- What is supposed to be done
- What was done
- What still needs to be done



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Now – let's get to the last item, "Cross-Committee Coordination"

Again, we will follow the same structure in presenting this issue to you. I'll outline what is supposed to be done, what was done, and what still needs to be done.



## Cross-Committee Coordination

### What is supposed to be done

- SCs and TGs adhere to their Terms of Reference
- SCs follow direction from EC to prioritize this task for changes to 9.36.
- Same process as SC-HSB has used with SC-UE, SC-FP, SC-ES, SC-SD for decades
- Same process all SCs have used with EC for Division A changes

### Cross-committee coordination is essential

- Joint effort of committees
  - SC-EE identifies potential issues stemming from changes proposed in 9.36 (e.g. PCF 1617)
  - SC-HSB reviews risks, conflicts, inconsistencies with Sections 9.1. to 9.35. incl. PCFs
  - Both SCs jointly resolve the issues by new changes or revisions to PCFs in Part 9

This topic is important enough to appear in the mandates of committees.

And – what is supposed to happen here, is that SCs and TGs should adhere to their Terms of Reference and follow direction from the EC.**[47]**

In this case the direction for SCEE and HSB came from the EC directing the SCs to prioritize cross-committee coordination for Section 9.36.**[17]**

What was supposed to be done here is nothing different than what SCs have done for many code cycles with other committees in coordinating similar changes and nothing different from what all SCs do when the EC coordinates its Division A changes with them.**[50]**



## Cross-Committee Coordination

### What is supposed to be done

#### The SC-EE:

- prepares recommendations to the Canadian Commission on Building and Fire Codes (CCBFC) regarding the technical content of documents within its terms of reference;
- is responsible for developing objective-based versions of the requirements within its terms of reference;
- ensures energy efficiency requirements developed within these terms of reference are consistent with the requirements across all *National Model Construction Code Documents* through cross-committee coordination with SC-HSB, SC-ES, SC-SD, SC-FP, SC-UE, and SC-HPI
- advises the CCBFC regarding changes to the scope and application of the NECB, NBC Section 9.36, and

Terms of Reference – SCEE – March 2018 – as approved by CCBFC

So, when we look at this excerpt from the SC-EE Terms of Reference, we find cross-committee coordination.[47]

And it is not just in SCEE's ToR, this topic is anchored in the mandate of each CCBFC committee in a similar form.[49]



## Cross-Committee Coordination

### What is supposed to be done

#### Phase II: Performance Path

1. Prepare recommendations for the development of requirements for each tier for long-term energy efficiency implementation dealing with Part 9–Housing and Small Buildings of the National Building Code with the last tier be equivalent to Net-Zero Energy Ready;
2. Develop appropriate performance level targets for each tier;
3. Coordinate the application of energy-efficiency requirements with other requirements in Part 9 of the NBC;

6. Coordinate between parent Standing Committee(s) to maintain harmonization between the National Model Code provisions.

#### Phase III: Prescriptive Path

1. Develop appropriate prescriptive requirements for each tier;
2. Coordinate the application of energy-efficiency requirements with other requirements in Part 9 of the NBC;

Further to the SC-EE Terms of Reference, here is the excerpt from the Terms of Reference of the Task Group on Energy Efficiency Housing and Small Buildings that was transferred from SC-HSB to SC-EE in 2018.**[48]**

It shows that the responsibility to coordinate the energy-efficiency requirements with other requirements in Part 9 was transferred to SC-EE.**[48]**



## Cross-Committee Coordination

### What is supposed to be done

- 1.2.10 The CCBFC gives direction to its standing committees, task groups, working groups and advisory groups on all matters pertaining to operation, including:
- identifying priorities for Code development issues;
  - approving work plans; and
  - approving carrying forward of work from one year to the next.

CCBFC P&Ps – Clause 1.2.10 – CCBFC gives direction to its standing committees

### 2 EXECUTIVE COMMITTEE

#### 2.1 General

- 2.1.1 The Executive Committee directs CCBFC business on behalf of and provides recommendations to the CCBFC.

- 2.1.2 Directions of the Executive Committee are in force when made, but are subject to ratification at the next CCBFC meeting.

CCBFC P&Ps – Clause 2.1.1. – EC acts on behalf of CCBFC, directions are in force immediately

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On the point of SCs following direction, we would like to show you what the P&Ps says about this

- At the top you can read that the CCBFC gives direction to the SCs on code development issues.**[51]**

- At the bottom it makes it clear that the EC acts on behalf of the CCBFC **[52]**

It also points out that the direction provided by the EC has immediate effect – not just when the CCBFC ratifies it.

And – just to reiterate - In this case the EC's direction was to prioritize the work on cross-committee coordination.**[17]**



## Cross-Committee Coordination

**What is supposed to be done**

compliance paths of the proposed tiers must not require mandatory airtightness testing. The EC also directed SC-EE and SC-HSB to look into the unintended consequences of the proposed code requirements and report back to the EC by May 2020 so that the EC can review the issue at its June 2020 meeting and ensure that due process has been followed.

34 CCBFC – EC Report – April 2020 – direction on unintended consequences and airtightness

2) Addressing potentially unintended consequences

In the interest of making sure that due diligence was done and that future code requirements offer effective regulatory solutions when published, the EC wishes to remind SCEE and SCHSB that the work on unintended consequences is of the utmost importance before the energy efficiency requirements for houses (NECB and Section 9.36.) can be finalized for the 2020 code.

The EC expects a report from both SCs as to how the effect of unintended consequences have been addressed and that the newly proposed changes do not cause any adverse effects on the 'house as a system'.

EC March 2020 - giving direction to SCEE and HSB

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This slide shows the EC's direction given

It is an excerpt from the EC report to the CCBFC at the 34<sup>th</sup> CCBFC meeting that clearly explains what the EC expected from SC-EE and SC-HSB. **[53]**

The second excerpt is from the March 2020 EC memo to SC-HSB and SC-EE that reminds the SCs to prioritize this issue. **[17]**

I'll let you read the excerpt at the bottom for a few seconds – because it could not be clearer.

- - - - -

It speaks to “doing due diligence”

- it notes that the work of resolving “unintended consequences” is of “utmost importance” and
- It expresses the expectation of the EC that all of this work will be done before the proposed changes on energy efficiency can be finalized.
- Clearly, the Executive Committee understood what's at stake here.



## Cross-Committee Coordination

### What is supposed to be done

- SCs and TGs adhere to their Terms of Reference
- SCs follow direction from EC to prioritize this task for changes to 9.36.
- Same process as SC-HSB has used with SC-UE, SC-FP, SC-ES, SC-SD for decades
- Same process all SCs have used with EC for Division A changes

### Cross-committee coordination is essential

- Joint effort of committees
  - SC-EE identifies potential issues stemming from changes proposed in 9.36 (e.g. PCF 1617)
  - SC-HSB reviews risks, conflicts, inconsistencies with Sections 9.1. to 9.35. incl. PCFs
  - Both SCs jointly resolve the issues by new changes or revisions to PCFs in Part 9

I'll just jump back to this slide again so we can read the bottom part

It talks about the the actual process: **[54]**

In this case, what was supposed to be done is that

- SCEE invites HSB to look at the 9.36. PCFs
- HSB reviews them for risk, conflicts and inconsistencies with the rest of Part 9 so that the house-as-a-system works
- And both committees jointly figure out the best way to resolve any issues that arise.





## Cross-Committee Coordination

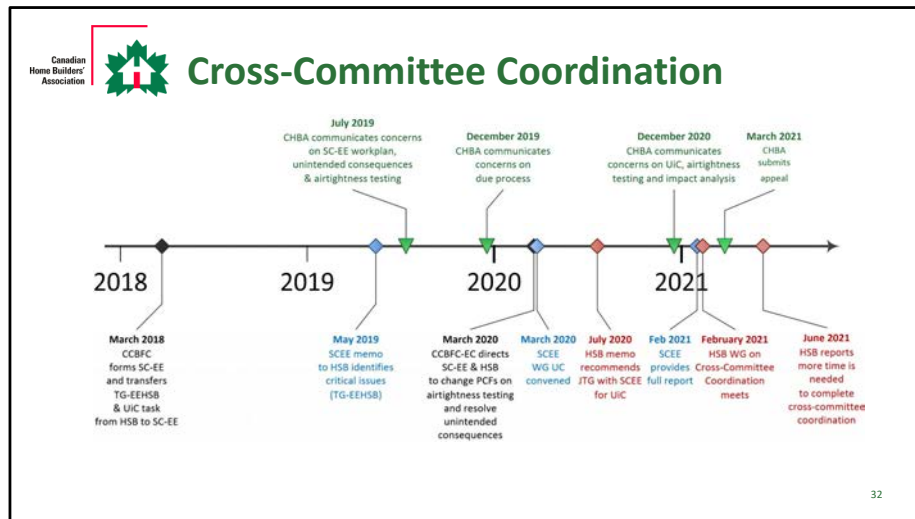
### What is supposed to be done

17.4.6 *Proposed changes* that affect other contents of the same or another *Code* that are the responsibility of another standing committee, are developed jointly by affected standing committees, or are submitted by the originating standing committee to all relevant standing committees for endorsement. When agreement between standing committees is not achieved, rationale for the differences between provisions addressing similar issues are documented and provided to the Executive Committee for consideration.

[CCBFC Policies & Procedures – 17.4.6. – Development of Codes and Intent Statements](#)

Just so that you know that this is not just a wild CHBA idea, here is the provision in the policies and procedures that sets up the expectations of when cross-committee coordination is required, who initiates it and the processes used to resolve any issues.**[54]**

We see that the responsible committee (SC-EE in this case) would originate the dialogue and that the expectations would be that HSB and SC-EE “develop jointly” or that SC-EE asks for HSB’s endorsement.



So what was done?

Actually, quite a bit. We can see that both committees had the intention to do the work.


Just to clarify, each colour here refers to a committee or an organization: the EC is black, SCEE is blue, HSB is red and CHBA is green.

As we noted earlier, in 2018 the CCBFC transferred the task to review unintended consequences to SC-EE together with the Task Group on Energy Efficiency in Housing and Small Buildings.[11]

In 2019, SC-EE sent a memo to advise HSB [55] that critical issues were identified in the development of new energy-efficiency provisions for 9.36. (the work on this was done by the TG EEHSB). In July 2020 HSB reviewed that memo and responded by suggesting a joint task with SCEE [57]

In the months following, CHBA alerted the Commission that the work to address this task appeared to have been abandoned.[13],[14], [19]

Following another discussion by the EC in February 2020, [17] the SC-EE Working Group on Unintended Consequences was formed and convened [56]; it's full report was not provided to HSB until February 2021, when the HSB WG on Cross-Committee Coordination was formed.[58]



# Cross-committee coordination

What was done

- 2020 SC-EE review noted
  - **critical issues** needed to be resolved **before publication**

### 8.4 Working Group on Unintended Consequences

The Chair of the Working Group (WG) Mr. Andrew Odang noted that the WG:

- reviewed the EC memo of March 13, 2020 on potential unintended consequences
- considered multiple sources of information
- ranked the issues considering various criteria and prioritized them into 'Critical action', 'Important action' and 'Beneficial to address' categories
- recommended to address the **Critical action** issues related to current set of proposed changes before the publication of the 2020 editions of the codes
- recommended a future Task Group (TG) to address remaining issues.

SC-EE agreed to strike a TG to address unintended consequences as recommended by the working group.

Draft minutes 2020-01 SCEE mtg (included in the SCEE 2020-03 agenda - May 12, 2021)

Color Code --Priority Status:

- **RED: CRITICAL ACTION / PRIOR TO NBC 2020 PUBLICATION**
  - Significant issues will arise upon the adoption and regulation of the proposed tiered energy code. Action should be taken PRIOR to publication of NBC 2020.

WG-UC Report from SCEE (2020-01) - May 2020

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Here we see excerpts of the SC-EE WG-UC report, which identified a number of red, critical priority items. [58]

The WG categorized these by saying that “significant issues will arise upon the adoption and regulation of the proposed tiered energy code” and that “Action should be taken PRIOR to publication of NBC 2020.” [59]

While SC-EE agreed to strike the Working Group in May 2019, the Group was not able to meet until March 2020—*after* the PCF was sent to the 2020 Winter Public Review.



## Cross-committee coordination

### What was done

- SC-HSB formed its Working Group on Cross-Committee Coordination in February 2021
  - **The WG's June 2021 report identifies 40 potential issues**
- A memo from the HSB Chair to SC-EE states
  - **review NOT complete**
  - **is requesting the review be added to the HSB workplan**

The SC-HSB was unable to conclude, at this time, that there aren't implications on other requirements in Part 9 (NBC) and agreed to request approval to add a task to their work plan to continue their review.

HSB Memo to SC-EE – 20 June 2021 – Cross-committee coordination

When we look at what HSB has done we find that they struck a Working Group on Cross-Committee Coordination in February 2021

The WG's June 2021 report identifies 40 potential issues. [22 p11-14]

In a memo to SCEE, the HSB Chair states that the review is NOT complete and that HSB is requesting the review be added to the HSB workplan [22]



## Cross-Committee Coordination

### What still needs to be done

- Complete review and risk assessment of potential cross-system issues related to the impact of tiered code requirements on current and proposed requirements in Part 9
- Revise proposed provisions for 9.36 and other provisions in Part 9 as required, including related PCFs going forward for the 2020 codes

So then – what still needs to be done?

In a nutshell, some process steps were “followed” but the process was not completed.

The SCs still need to complete the review and risk assessment of potential cross-system issues related to the impact of tiered code requirements on current and proposed requirements in Part 9, and – if necessary – need to be able to make revisions to proposed provisions for 9.36 and other provisions in Part 9 as required, including related PCFs going forward for the 2020 codes.

**That closes my remarks and – with that, I’ll hand it back over to Kathleen to summarize our recommendations and wrap up.**



## Conclusion

- Summary of appeal
- Where do we go from here?



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Thanks Frank.

To conclude our presentation, I'll summarize and provide some suggestions on where we might go from here.



## Summary of appeal

The industry is concerned that:

1. **Airtightness testing**—that the intent of the direction and instructions issued by the EC to SC-EE, and the policy advice received from PTPACC on airtightness testing was not fully adhered to
2. **Impact analysis**—that impact analysis was not fairly assessed and properly published on the PCF
3. **Cross-committee coordination**—that proper cross-committee coordination processes had not taken place before an SC recommended approval of a PCF to the CCBFC

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CHBA recognizes the urgency of acting on ambitious goals for energy efficiency.

In 2016, CHBA launched its own market-driven, voluntary net-zero program to develop best practices and find effective solutions.

Through this program, leading-edge builders are identifying challenges associated with building super-energy-efficient homes, and finding solutions to those challenges.

Before our Net Zero program, CHBA originated the work to demonstrate and validate energy-efficient building techniques through the R-2000 program.

It is the lessons learned and the experience gained from these programs that has driven our contributions to code development in this area, and why we have communicated from the beginning, at every meeting, the importance of addressing the impact of energy-efficiency measures on the performance of homes overall.

SC-EE was directed to remove mandatory airtightness testing before sending PCF 1617 to public review. When PCF 1617 was sent to public review, it included mandatory airtightness testing.

When reminded that mandatory airtightness testing needed to be removed, the PCF was revised in that it introduced a penalty for not conducting airtightness testing. This policy move is not within SC-EE's mandate. In addition, the significant technical revision made after public review was not justified by the absence of adverse reaction, and the PCF was not sent to a new public review.

The impact analysis done on PCF 1617 was not re-assessed to reflect the changes made after public review.

And while some work has been done on cross-committee coordination it has been confirmed that the cross-committee coordination process has not been completed.



## Where do we go from here?

- Don't hold up publication of the 2020 codes for this change and those related to it – many other changes already approved by CCBFC
- Publish without changes to 9.36
- Complete outstanding work on PCF 1617 and any related PCFs
  - Remove airtightness testing penalty and develop prescriptive requirements for all tiers
  - Complete impact analysis on revised changes, considering new information received
  - Complete cross-committee coordination, identifying any additional revisions and proposed changes
- Submit all to public review
- Publish when the process is complete

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So where do we go from here?

The fact that this PCF is not ready for publication should not hold up the entire publication of the codes.

Many other changes have been approved just for energy efficiency, and many more changes have been approved in relation to other code objectives.

CHBA recommends that CCBFC consider publishing the codes with the changes that have been approved. The few PCFs related to PCF 1617 could also be reviewed to determine if they can move forward.

CHBA further recommends that NRC and the Commission make the immediate commitment and allocate the resources necessary to prioritize the completion of the outstanding work on PCF 1617 and any related provisions. This would include:

1. Ensuring consistency between the airtightness values in part 9—in other words, removing the penalty for not conducting an airtightness test.
2. Developing prescriptive requirements for all tiers so that mandatory airtightness testing is not required by default
3. Completing and providing impact analysis on the revised PCF(s)
4. Considering new information received on the alignment of the proposed tiers with actual built net-zero ready homes[61],[62],[63],[64]
5. Completing the cross-committee coordination review, identifying any additional revisions and proposed changes required
6. Submitting significantly revised proposed changes and any additional proposed changes to public review
7. Publishing when the process is complete.





## Thank you

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Thank you.



## Questions?