



To: General Purposes Committee **Date:** May 25, 2015
From: John Irving, P.Eng. MPA **File:** 10-6125-07-02/2015-
Director, Engineering Vol 01
Re: **Townhouse Energy Efficiency and Renewable Energy policy**

Staff Recommendation

That:




1. Richmond Official Community Plan Bylaw No. 9000, Amendment Bylaw No. 9254 (Townhouse Energy Efficiency and Renewable Energy), to amend the City's existing energy efficiency policies for townhouse developments resulting from rezoning to reference Natural Resources Canada's "Energy Star for New Homes" standard in the Official Community Plan Bylaw No. 9000, be introduced and given first reading;
2. Richmond Official Community Plan Bylaw No. 9000, Amendment Bylaw No. 9254 having been considered in conjunction with:
 - the City's Financial Plan and Capital Program; and
 - the Greater Vancouver Regional District Solid Waste and Liquid Waste Management Plans

is hereby found to be consistent with said programs and plans, in accordance with Section 882(3) (a) of the Local Government Act; and

3. Richmond Official Community Plan Bylaw No. 9000, Amendment Bylaw No. 9254, having been considered in accordance with OCP Bylaw Preparation Consultation Policy 5043, is hereby found not to require further consultation.

John Irving, P.Eng. MPA
Director, Engineering
(604-276-4140)

Att. 2

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Law	<input checked="" type="checkbox"/>	
Building Approvals	<input checked="" type="checkbox"/>	
Development Applications	<input checked="" type="checkbox"/>	
Policy Planning	<input checked="" type="checkbox"/>	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 	APPROVED BY CAO 

Staff Report

Origin

Council adopted the Townhouse Energy Efficiency and Renewable Energy policy for townhouse rezoning in September 2014.

The purpose of this report is to propose amendment of the policy to reference Natural Resource Canada's "Energy Star for New Homes" (ESNH) standard as an additional option to meet rezoning requirements, and thereby align with BC Hydro and Fortis BC incentive programs.

This report supports Council's 2014-2018 Term Goal #4 Leadership in Sustainability:

Continue advancement of the City's sustainability framework and initiatives to improve the short and long term livability of our City, and that maintain Richmond's position as a leader in sustainable programs, practices and innovations.

4.1. Continued implementation of the sustainability framework.

4.2. Innovative projects and initiatives to advance sustainability.

The recent referral on solar energy that originated out of the Planning Committee Meeting on May 20 will be addressed in a separate report.

Background

Richmond Climate Action Leadership

Increased energy efficiency is supported by Council's adopted policies and plans. The 2041 Official Community Plan (2041 OCP) defines a community-wide energy reduction target of 10% below 2007 levels by 2020, as well as Greenhouse Gas (GHG) reduction targets of 33% below 2007 levels by 2020 and 80% below 2007 levels by 2050, subject to senior government action. The 2014 *Community Energy and Emissions Plan (CEEP)* identifies strategies and action to reduce energy emissions, including:

Action 4: Promote energy efficiency in all rezonings.

Existing Policy

The City's current policy requires that new townhouse developments resulting from rezoning be designed to achieve an EnerGuide 82 rating (ERS 82). The Richmond OCP Bylaw 9000 states that:

- a) *new townhouses are required:*
- *to be designed to score 82 or higher on the EnerGuide Rating System (ERS). ...*
[and]
 - *to be solar hot water-ready; or*

- b) *alternatively, new townhouses will be exempt from a) above, if they connect to a district energy utility, or install industry proven renewable energy systems (e.g., geoexchange, solar water heating, photovoltaic energy) which provide the majority (at least 51%) of heating, cooling and/or electrical energy load requirements.*¹

To achieve this target, rezoning applicants are required to retain a Certified Energy Advisor (CEA) to complete an Evaluation Report for improved energy performance on the most marginal (i.e., greatest design heat loss) units, and confirm that the Building Permit specifications for the all units will achieve or exceed an ERS score of 82. The developer would be required to register a covenant on title that all the units are built and maintained to an ERS 82 rating or higher. A design for a new townhouse development could achieve this ERS 82 rating using a variety of different approaches and measures.

Building Act

The province enacted the *Building Act* in April 2015 with the intent of “ensuring [that] building requirements are the same throughout B.C.” Under the *Building Act*, the provincial Minister gains powers for “establishing one or more building codes” and “regulating building generally for matters not included in a building code.” The implications of the *Building Act* on the City of Richmond’s rezoning policies are unclear at present. The province has stated its intention to enact regulations setting out better-than-building code standards that local governments can choose to adopt. The *Building Act* provides local governments with a two-year transition period once provisions of the Act come into force. To date, however, no part of the *Building Act* has yet come into force, and no regulations under the *Building Act* have been adopted or sent out for consultation.

Analysis

Building Energy Rating Systems

Canada’s EnerGuide provides the public with information on the absolute energy efficiency of different models of products, and their performance relative to the range of other products in that category. The EnerGuide Rating System (ERS) for houses provides a score of a building’s energy performance. All homes, regardless of their energy performance, can receive an EnerGuide label. The ERS is currently referenced as part of Richmond’s townhouse rezoning policy.

The Energy Star program (originally developed in the US, and adopted by Canada in 2001), takes a different approach to that of EnerGuide; Energy Star is used to label only those products that meet or exceed premium levels of energy efficiency.² Energy Star for New Homes (ESNH)

¹ In addition to the ERS requirement, the building must also be designed to be solar hot water-ready. OCP (Bylaw 9000), Chapter 12.4, Objective 2. Policy amended 2014/09/02.

² <http://www.nrcan.gc.ca/energy/efficiency/housing/new-homes/5103>

is a standard that designates homes constructed to be approximately 20% more energy efficient than those built to minimum building code requirements within that jurisdiction.³

At the start of 2015, BC Hydro and FortisBC switched from using an ERS target to requiring that new homes achieve the ESNH standard in order to qualify for their energy efficiency rebates and incentives. Constructing ESNH-certified homes enables builders of townhouses to obtain a BC Hydro incentive of \$700 per townhouse unit. Installing energy-efficient clothes dryers, gas fireplaces and indoor lighting in these new homes qualifies builders for additional incentives. FortisBC plans to announce the details of its own incentives package shortly.

The ESNH standard allows builders to meet the requirements by following either a performance or prescriptive pathway; both pathways include some prescriptive requirements, including airtightness standards, the effective insulation value of walls, ceilings, floors and foundations, and electricity savings from the home's HVAC and lighting equipment. The ESNH's performance pathway requires the new home to achieve a minimum EnerGuide rating of 81, slightly less than the City's current requirement of ERS 82. The ESNH's prescriptive pathway sets out additional insulation requirements; minimum performances for space heating, water heating (and/or combined heating), and ventilation; requires electricity demand savings of 400 kWh per year (approximately 3.5% average household electricity use); and provides a "Builders Options Package" from which builders must select additional options.

Achieving the Energy Star standard will enable builders to access incentive funding provided by BC Hydro and Fortis gas. As such, the revised policy should not result in any additional costs for builders fully conforming to existing policy.

Staff is continuing to examine using solar energy as a source of power in Richmond and will report back to Council later in the year with findings and recommendations. Both the ERS and ESNH rating systems focus on energy efficiency; designing townhouses with solar domestic hot water and/or solar PV panels could help increase the ERS rating of these homes since the solar energy produced on site would reduce their net energy demand. The ESNH standard also directly supports the installation of CSA-approved solar domestic hot water systems, which could earn almost half of the Builder Option Points needed under the compliance pathway of the ESNH.

Options

Staff has identified three options for consideration:

Option 1: Do not implement any change to the townhouse rezoning policy at this time. (Not recommended)

Homes designed to achieve an ERS 82 score would not necessarily meet the more prescriptive requirements of the ESNH standard. Because developers achieving ERS 82 might not be able to access utility incentives despite designing for higher levels of energy efficiency, this option is not recommended.

³ <http://www.enerquality.ca/program/energy-star-for-new-homes/>

Option 2: Replace the EnerGuide 82 option with the Energy Star for New Homes standard under the townhouse rezoning policy. (Not recommended)

Adoption of the new ESNH standard is consistent with the direction set by the utilities, and other jurisdictions in Canada. However, by removing the option to design new townhouses to achieve ERS 82 (without reference to the specific prescriptive requirements entailed in the ESNH standard), the City would disallow a compliance option it first introduced only a year ago, potentially creating challenges for orderly project development.

Option 3: Add the Energy Star for New Homes standard as a third option under the townhouse rezoning policy. (Recommended)

In addition to the City’s two existing compliance pathways noted above, the recommended policy would add the following third additional compliance option for rezoning applicants:

New townhouses are required to be designed to achieve the Energy Star for New Homes standard.

Adoption of the ESNH standard will align with the BC Hydro and FortisBC incentives for new home construction noted above. Adding the ESNH standard as an additional option will provide developers with more flexibility in designing for greater-than-code energy efficiency performance. As noted above, while the new ESNH standard sets an ERS score of 81, slightly lower than the existing policy requirement of ERS 82, the more prescriptive approach of the ESNH standard is expected to result in buildings with equivalent performance.

Consultation

Staff has reviewed the proposal, with respect to the BC Local Government Act and City’s OCP Consultation Policy No. 5043 requirements, and recommend that this report does not require referral to external stakeholders additional to those noted below.

Table 2 below clarifies this recommendation. Public notification for the Public Hearing will be provided as per the Local Government Act.

Table 2: OCP Consultation Summary	
Stakeholder	Referral Comment (No Referral necessary)
Urban Development Institute (UDI)	Discussed at the May 27, 2014 regularly scheduled meeting with UDI. Information on the proposed amendment sent in advance of the meeting.
Greater Vancouver Home Builders' Association (GVHBA)	Representative present at the May 27, 2014 meeting with UDI. Information on the proposed amendment sent in advance of the meeting.
Richmond Small Builders' Group	Discussed at a meeting on May 27, 2014. Information on the proposed amendment sent in advance of the meeting.
BC Land Reserve Commission	No referral necessary, as not affected.
Richmond School Board	No referral necessary as not affected.

Stakeholder	Referral Comment (No Referral necessary)
The Board of the Greater Vancouver Regional District (GVRD)	No referral necessary, as not affected.
The Councils of adjacent Municipalities	No referral necessary, as not affected.
First Nations (e.g., Sto:lo, Tsawwassen, Musqueam)	No referral necessary, as not affected.
TransLink	No referral necessary, as not affected.
Port Authorities (Vancouver Port Authority and Steveston Harbour Authority)	No referral necessary, as not affected.
Vancouver International Airport Authority (VIAA) (Federal Government Agency)	No referral necessary, as not affected.
Richmond Coastal Health Authority	No referral necessary, as not affected.
Community Groups and Neighbours	No referral necessary, as not negatively affected.
All relevant Federal and Provincial Government Agencies	No referral necessary. Provincial Building and Safety Standards Branch staff indicate that there are currently no plans to restrict municipal powers over rezoning under the BC Building Act.

As noted above, staff presented the proposed townhouse energy efficiency policy change for rezoning with the Urban Development Institute (UDI) on May 27, 2015, at which a representative of the Greater Vancouver Homebuilders Association (GVHBA) was also present. Also on May 27, 2015, staff discussed this initiative with members of the Richmond Small Builders’ Association. Staff sent information on the proposed amendment via email to all of these groups in advance of these meetings and requested written feedback.

Stakeholder representatives from both UDI and the Richmond Small Builders Association noted the expense of meeting the EnerGuide 81 standard, highlighting the cost of contracting an energy advisor. UDI stated their understanding that under the *Building Act* local governments can no longer impose building standards beyond code. Staff responded that the intent of the policy amendment was to provide builders with more options, and facilitate their access to energy efficiency incentives provided by the utilities. The *Building Act* has yet to enter into force, and staff understand that the *Building Act* is not intended to affect rezoning processes. Furthermore, there will be two-year transition period after each part of the *Building Act* enters into force, and the province has stated that it will develop beyond-code building standards that municipalities can voluntarily adopt during this transition period. As of yet, no such regulations have been produced by the province.

Detailed feedback from these groups is provided in attachment to this report.

Proposed 2041 Official Community Plan Text Amendment

The proposed Townhouse Energy Efficiency and Renewable Energy OCP amendment provides clarity and transparency to all applicants. The recommendation is that the OCP amendment be applied to those rezoning applications received after the adoption of the proposed OCP amendment.

Each rezoning application would be considered on its own merit and all utility incentives would continue to be available to developers who meet higher energy standards (e.g., BC Hydro incentives). New townhouse applicants who also seek to amend the 2041 OCP land use designation may be expected to exceed these minimum expectations.

Financial Impact

None.

Conclusion

Richmond has demonstrated leadership in increasing building energy efficiency and reducing related GHG emissions. The 2041 Official Community Plan and Community Energy and Emissions Plan together are a strong framework to pursue the City's community-wide targets. While Richmond is already a leader in townhouse development, further action is needed to achieve improved energy efficiency. The proposed policy provides new townhouse developers with flexible ways to identify and implement more cost effective and energy efficient townhouses at the construction stage. This approach is aimed at providing future townhouse owners with lower energy costs.



Nicholas Heap
Sustainability Project Manager (TFT)
(604-276-4267)

- Att. 1: Richmond Official Community Plan Bylaw 9000: Amendment Bylaw 9254 (Townhouse Energy Efficiency and Renewable Energy)
- Att. 2: Feedback received from stakeholder organizations on the proposed amendment to the Townhouse Energy Efficiency and Renewable Energy policy.



**Richmond Official Community Plan Bylaw 9000,
Amendment Bylaw No. 9254
(Townhouse Energy Efficiency and Renewable Energy)**

The Council of the City of Richmond enacts as follows:

1. Richmond Official Community Plan Bylaw 9000, as amended, is further amended at section 12.4 by deleting Objective 3, Policy a) in its entirety and substituting the following:

“a) at the time of rezoning, new townhouses proposed for a development site will be required to be designed to:

- be solar hot water-ready; and

either

- score 82 or higher on the EnerGuide Rating System (ERS); or
- meet the Energy Star for New Homes Standard.

To achieve this requirement, developers are to retain a certified energy advisor (CEA) to complete and submit an Evaluation Report, satisfactory to the General Manager, Engineering & Public Works for improved energy performance on the most marginal (i.e., greatest design heat loss) units, which identifies construction specifications for all units so as to achieve or exceed either: (a) an ERS score of 82; or (b) the appropriate technical specifications for British Columbia in the latest available version of the “Minimum Requirements for ENERGY STAR® Qualified New Homes” document published by Natural Resources Canada. The developer would be required to register a covenant on title to build and maintain all the units in compliance with the Evaluation Report. If the requirement is to meet the Energy Star for New Homes Standard, the applicable standard is the version in force at the time the rezoning bylaw is adopted and confirmation that all the units meet the standard is required before final inspection permitting occupancy.”

2. This Bylaw is cited as “**Richmond Official Community Plan Bylaw 9000, Amendment Bylaw No. 9254**”.

FIRST READING

PUBLIC HEARING

SECOND READING

THIRD READING

ADOPTED

CITY OF RICHMOND
APPROVED for content by originating dept. <i>[Signature]</i>
APPROVED for legality by Solicitor <i>[Signature]</i>

MAYOR

CORPORATE OFFICER

Attachment 2: Feedback received from stakeholder organizations on the proposed amendment to the Townhouse Energy Efficiency and Renewable Energy policy

UDI - Richmond Liaison Committee Meeting

May 27, 2015, 12:00 pm - 1:30 pm
Richmond City Hall

Attendees included:

- Dana Westermark, UDI
- Mark Sakai, Greater Vancouver Home Builders Association (GVHBA)

UDI members noted that the Richmond market for townhouses is currently very strong, with all units built selling quickly.

Staff noted that the amended policy, if adopted, would provide builders with more options, and facilitate access to energy efficiency incentives provided by the utilities, plus additional incentives for lighting, clothes dryers, etc.

Dale Westermark (UDI) made the following points:

- The additional cost of meeting the EnerGuide (ERS) 82 requirement, citing \$4,000/unit. (Another developer in attendance noted an additional cost of \$6,000/unit.) Developers had been told the added costs of meeting ERS 82 would be minimal.
- At a recent meeting hosted by UDI, provincial staff stated that municipalities are not allowed to impose these kinds of conditions under the new Building Act.

Staff noted the following:

- The Building Act has not yet come into force (parts of the Act will come into force by Order in Council, any by the adoption of regulations by the Minister);
- Once parts of the Building Act enter into force, there is a two year transition period during which municipalities can align their bylaws with the Building Act.
- The province has stated its intention of developing better-than-code provincial regulations that local governments can choose to adopt. However, the province has yet to draft or adopt any regulations under the Building Act.
- The City's Law department understands the Building Act would not be used to alter conditions for rezoning applications.

In conversation with staff after the meeting, Mark Sakai (GVHBA) noted that he would remind his members to provide written comments on the proposed policy amendment to City of Richmond staff by the end of day, Friday, May 29, 2015. As of Saturday morning, May 30, no written comments were received from GVHBA or UDI members.

May 30, 2015

- 2 -

Meeting with Richmond Small Builders' Association

May 27, 2015, 3:00 – 4:00 pm

Richmond City Hall

Attendees:

- Raman Kooner (in place of Ajit Thaliwal)
- Rick Sian, Sian Group
- Aleksandar Kos, Core Concept Consulting
- Bruce Duffy, Core Concept Consulting
- Clive Alladiy, Bacaudra Development
- Alen Postolka, City of Richmond
- Nicholas Heap, City of Richmond

Members of the Richmond Small Builders Association noted the following:

- The Energy Star maximum size restriction of 600m² should be compatible with current building practice of building “blocks” of 6-10 townhouses (to avoid falling under Part 3 of the Building Code).
- The additional cost of meeting the EnerGuide 82 requirement was up to \$10,000 per unit (the cost of hiring an energy advisor). The cost of DCCs, fees, permits, labour and land are all rising at the same time: this is one more thing on top.
- Because Energy Star requires a lower ERS 81 score, members thought it sounded like an easier option than the ERS 82 pathway, even with the mandatory elements required.
- Several attendees noted that the previous policy (formally adopted last year) appeared to have been applied retroactively. Attendees requested that the City clarify how the old policy was implemented.
- Given that the new policy provides more flexibility, the Association members stated they were in favour of this new policy being applied retroactively to applications already received.
- Staff was requested to set up a workshop for Richmond home builders where BC Hydro and FortisBC could explain their inventive offerings to local builders, and facilitate builders' access to these incentives.