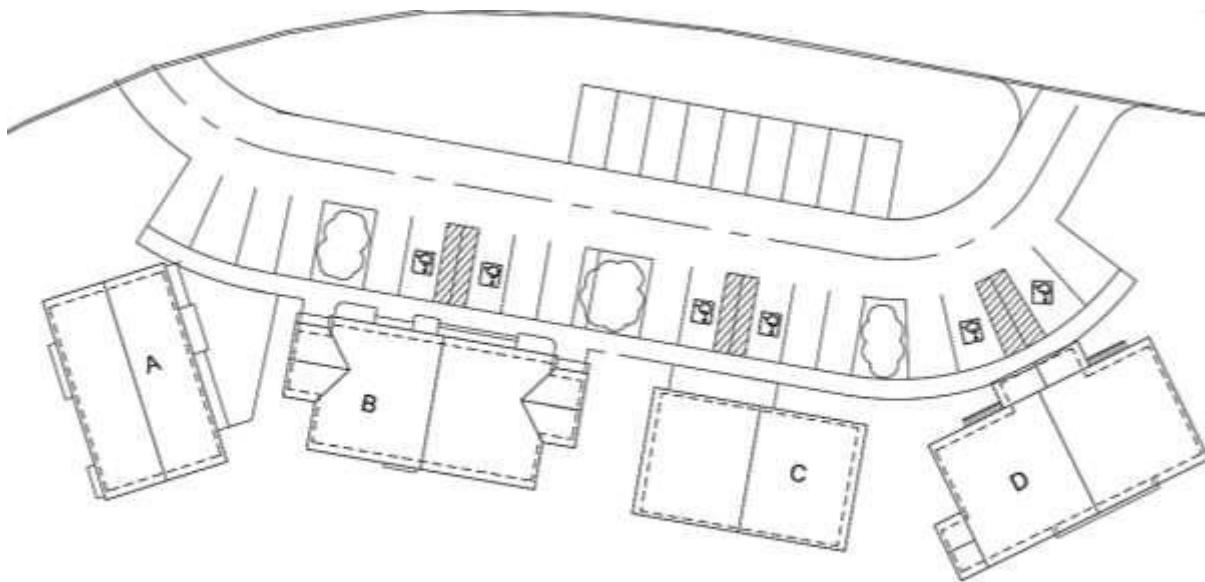


Triple Bottom Line Report

Federation of Canadian
Municipalities

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Antigonish Affordable Housing Society
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Annexes:

Annex 1	AAH Energy Modelling Report 2020-06-22
Annex 2	AAH Energy Modelling Report 2020-10-14
Annex 3	Construction Doc 1 842_IssueTenderDwgs_200814
Annex 4	Construction Doc 2 200814_842_IssueTenderSpec (1)
Annex 5	Appleseed – CMHC Revisions 12 units Final
Annex 6	Pro Forma with and without solar panels.
Annex 7	Schedule of Milestones – Appleseed Drive.
Annex 8	Quantity Survey Study Antigonish Affordable Housing – Class D June 18 2020 r1

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1. Summary of the Initiative

The Antigonish Affordable Housing Society (AAHS) aims to provide access to affordable and energy efficient housing that is socially & financially sustainable to those within the community. The proposed building consists of four (4) buildings along Appleseed Drive, totaling approximately 12,660 Square Feet. The buildings will consist of 12 one-, two-, and three-bedroom units, with four units barrier free. There will be 4 one-bedroom units, 6 two-bedroom units, and 2 three-bedroom units. All will be significantly below typical Antigonish market rents (at 60% to 75% of mid-market rent). One of the proposed buildings is a community room with basement storage, both barrier free. The Community Room will have shared laundry services, two barrier free washrooms, and an office space.

The purpose of this initiative was to complete a feasibility study for the net-zero competition of the apartment complex described above. This included energy modelling studies, architectural preliminary design, and architect design development. When AAHS became aware of FCM funding, it was then able to explore a more ambitious net-zero strategy. However, as part of the funded-initiative there were no major changes to scope or timeline.

AAHS did not complete any community engagement activities funded under this initiative, but instead engages community as a regular part of its activities. For example, AAHS has an annual general meeting where the public is invited to learn about our projects and offer their inputs and is regularly in the local media updating the public on our activities and plans. The board members regularly receive feedback from the public through phone calls, exchanges at grocery stores, on the streets and at public events (pre Covid-19). This feedback is extremely important to the AAHS as we envisioned and work towards our affordable housing being community supported. From a social/wellbeing perspective, the AAHS currently has a Tenant Advisory Group (TAG) at Riverside Estates which meets regularly to discuss issues and to plan social/educational activities for the residents. One of the members of the TAG group sits on the AAHS board of directors and reports any tenant issues that require board attention.

Beyond the above, AAHS participated in public hearing held by the Town of Antigonish on the proposed build. This public hearing, on November 9, provided an opportunity for Town Councilors and the public to comment on and ask question of AAHS representatives with regards to the proposed build.

2. Triple Bottom Line Findings and Recommendations

The Study found that Antigonish Affordable Housing can achieve net-zero energy consumption and greenhouse gas emissions, that net-zero energy use will result in significant financial savings, and increase the social benefits of the Appleseed Drive build (through channeling savings towards a Community Navigator position, which helps tenants access the resources they need to live well). Briefly, 128 roof mounted panels and 220 ground mounted panels will provide approximately 100 KW of electricity per year, generating approximately 100% of energy consumption providing savings of approximately \$18,540 per year. This will enable:

- Fully net-zero energy consumption and greenhouse gas emissions.
- Offers energy cost savings of approximately \$463,000 over 25 years (not adjusting for inflation).
- Operational cost savings and decreased maintenance.
- AAHS will be able to channel energy savings to partially offset the Community Navigator position, which is a key factor in social sustainability and enables tenants to access services and resources they require.

While going net-zero does not directly impact affordability, it will indirectly impact affordability, prevent energy poverty, and increase social benefits to tenants. AAHS has learned from our past experience (operating Riverside Estates), that many tenants struggling on low income are in arrears with NS Power and were unable to connect their power. Energy poverty is a major issue for people on low incomes so in the proposed building utilities will be included in the rent, removing the barrier of people accessing power if they are in arrears. This also removes the base monthly charge each tenant would otherwise pay and provides savings on the HST portion of the NS Power bills. We expect program will provide AAHS and tenants with lower and more predictable energy bills.

The following table summarizes the results of predicted energy consumption for the Recommended Buildings, as calculated by the HAP software.¹

Item	Consumption (kWh)
Internal Lighting	15,193
External Lighting	6,086
Space Heating & Heat Rejection	41,175
Space Cooling	9,789
Fans & Pumps	22,781
Service Water Heating	33,750
Internal Loads (Building Equipment Consumption)	17,273
Total	146,047
PV Array Production	-146,047
Net Total w PV Offset	0

¹ Full details are available in the Feasibility Study submitted to FCM, as well as the annexes to the report, including the Energy Modelling Reports completed by A.H. Roy and Associates.

The following is summary of energy modelling findings for a one-year period. Detailed information can be located in the body of the report.

Reference Bldg. Energy Consumption:	147,776 kWh
Proposed Bldg. Energy Consumption:	146,047 kWh
Proposed Bldg. Energy Consumption (Net Including Renewable Gen.):	0 kWh
Reference Bldg. Emissions:	93,232 kg CO ₂ Eq.
Proposed Bldg. Emissions:	92,141 kg CO ₂ Eq.
Proposed Bldg. Emissions (Net Including Renewable Gen.):	0 CO ₂ Eq.
Reference Bldg. Energy Cost:	\$ 18,540
Proposed Bldg. Energy Cost:	\$ 18,325
Proposed Bldg. Energy Cost: (Net Including Renewable Gen.):	\$ 0

To determine local median market rent, AAHS has been in communication with Housing Nova Scotia and CMHC's National Co-Investment fund with regards to the particularities of a rural town with a high university student population. They determined the monthly market rent and monthly median market rent as per the below table. As per AAHS's proposed rents, all units are significantly below MMR, particularly for three-bedroom units, as there is a significant lack of three-bedroom units in Antigonish Town and County, ranging from 58% of MMR to 75% of MMR. 4 units will be barrier free.

Unit type	Unit Size (sq ft)	Number of Units	Monthly Market Rent (PGI)	Affordable Rent (PGI)	Monthly Median Mkt Rent (MMR)	Affordable Rent as % of MMR
Bachelor - market						
Bachelor - affordable						0.00%
1 bed (incl. 1 bed plus den) - market			\$ 900			
1 bed (incl. 1 bed plus den) - affordable	624	5		\$ 605	\$ 810	74.69%
2 bed (incl. 2 bed plus den) - market			\$ 1,050			
2 bed (incl. 2 bed plus den) - affordable	884	5		\$ 710	\$ 975	72.82%
3 bed (incl. 3 bed plus den) - market			\$ 1,200			
3 bed (incl. 3 bed plus den) - affordable	1,144	2		\$ 750	\$ 1,275	58.82%

3. Community Context

Antigonish Town and County is in rural, northeastern Nova Scotia. The town has a university, a regional hospital and acts as a service centre for the surrounding counties. The population of Antigonish County is approximately 19,000, while the Town of Antigonish has a population of approximately 4500. The latter doubles each year when university students are attending classes. Consequently, the rents are higher than other towns of similar size.

This initiative focusses on the availability of sustainable affordable housing, specifically for families. The 2019 Strait Regional Vital Signs Report (covering the 4 counties of northeastern Nova Scotia), reports that Antigonish Town and County have the highest number of people spending more than 30% of income on housing with 1,330 people living in unaffordable housing.

This reflects the situation of Eastern Mainland Housing Authority in November 2019 with 102 applicants on their waiting list, 28 having dependents under the age of 18. Currently, AAHS has fifty-one applicants seeking housing. Feedback suggests there is great need for affordable housing generally and, a great need exists for families with children.

The Antigonish Affordable Housing Society (AAHS) was originally formed in 1993, but was unsuccessful in its efforts to develop an affordable housing project. In 2011, as a result of the work of the Antigonish Anti-Poverty Coalition, AAHS was re-established, and in 2014 it became a registered Canadian charity with a new board of directors. We now have a group of committed volunteers who bring with them a wealth of skills in accounting, building development and management, communications, and community development, as well as rich experience in connecting with people living on low incomes, and being in that situation. AAHS currently operates a 14-unit building called Riverside Estates. We completed construction of Phase 1 of this development in 2017 and Phase 2 (2018) with 14 units, a community room, community gardens, laundry facilities, and an office.

4. Project Team

- a) The core team developing this initiative comprised AAHS board members: Colleen Cameron (Chair), Agnus MacGillivray (Treasurer) and Eric Smith (member of the Board). The board as a whole was supportive, as were Town and County Councilors and Municipal employees who provided letters of support.
- b) Eric Smith played a central role in identifying the funding opportunity available through the Federation of Canadian Municipalities, writing the proposal for the Green Municipal Fund (and later the Sustainable Affordable Housing Initiative), and ensuring the completion of the funded initiative.

5. Outcomes and Next Steps

The Feasibility Study and Options analysis charts a clear path forward for AAHS: to proceed with a net-zero build as it is in full accord with AAHS's vision, mission and values. The optimization, building envelope, and fuel switching options provided by the report are possible with additional capital funds, and will provide economic, social and environmental benefits to the Society. It also provides a 'fall-back' option of partial net-zero, which will also provide significant, but not ideal, economic, social and environmental benefits. Next steps include seeking capital financing from FCM, as well as looking at other sources of funding to complete the net-zero build.

6. Lessons Learned and Knowledge Sharing

The application process requires significant internal resources and technical capacity. Fortunately, the AAHS board has board members with a common vision and commitment to its purpose. It was also able to draw upon resources within its network (i.e. friends, in particular Mitchell Niles, J.L. Richards and

Associates, who first shared the funding opportunity with Eric Smith) who could provide critical advice with regards to FCM application processes, requirements, and energy modelling and feasibility studies. While we could have sought external consultants to help draft the feasibility study and support the application, AAHS was able to rely on internal capacity and limited external voluntary capacity to complete the application and study.

Contractors were also flexible with AAHS's learning processes. This enabled the Energy Modelling Study. For example, A.H. Roy and Associates completed two modelling studies for AAHS. The first outlined just roof-top solar, while the second outlined roof top and ground-mount solar. This enabling community of supporters helped ensure the successful completion of the funded initiative. Furthermore, the architect (Dale Archibald and Associates) were also quite flexible in designing and developing the build.

AAHS also benefitted from enabling municipal environments. Both the Town of Antigonish and Antigonish County are key partners of AAHS in developing affordable, sustainable, and environmental housing in their municipalities. AAHS maintains close ties with Antigonish Town and County, who are both fully supportive of the project and have provided financial resources to achieve the previous build and will provide financial resources to complete the proposed build. Similar relationships are held with the provincial representatives. Should there be any regulatory challenges, AAHS will leverage this support to overcome them.

With regards to sharing our lessons learned, we have already begun sharing our lessons learned with other organizations. This has mostly happened informally, through AAHS connections with the Community Housing Transformation Sector, Housing Nova Scotia, the Centre for Housing Transformation and Renewal, and other sectoral associations. The core team has also shared their lessons learned with the broader board, who are also sharing news and information within the local housing sector. We are considering other options for sharing our lessons learned. One of the key lessons that we would share with others is that FCM allows engineering firms to support the application, and that they engineering firms can recover their costs if the application is successful. We feel that this is a critical message that can enable the sector to access such funds and achieve net-zero energy builds.

7. Publicity and Outreach

We have not yet begun any public recognition or outreach in regards to the funded initiative, as FCM only very recently confirmed funding. However, we plan on sharing the news on our social media and through our broader networks (as noted in the last section), shortly. We would be happy to share a list of our public recognition with FCM.

Images will be sent as an attachment, but we feel these would best be publicized in the Spring once we break ground on the new build. Until then, we can share images of the proposed building site, AAHS in general, and technical drawings.

8. Contacts

The primary contacts for the funded initiative are:

Colleen Cameron, Chair of the Board of Director, 902-863-7152, ccamero@stfx.ca

Eric Smith, Board Member, 902-989-3547, eric.warren.smith@gmail.com

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