Building Hope for the Planet

By Hamida Sandy Susut

Many of us search for ways to sustain Mother Earth, to make a difference in the climate crisis facing us and to act in reciprocity with the natural world. Murshid S.A.M. guides us in our service by his example.

I have been blessed to live in Sundance Housing Co-op, a non-equity co-op of 78 units with 150 people, since 1979, the year it opened, save a 6 month pilgrimage to India, a year following Sufi and Dances of Universal Peace events in the US Southwest, the better part of a year on retreat at Mentorgarten in San Francisco and near 2 years in Seattle, Washington as the executive director of PeaceWorks INDUP.

Sundance Co-op is located in Edmonton, Alberta, Canada on the traditional gathering place and home for many Indigenous Peoples including the Nehiyawak/Cree, Niitsitapi/Blackfoot, and Nakota Sioux. Sundance is just a 3 minute walk to the North Saskatchewan River. The Edmonton river valley is one of the longest contiguous urban natural areas in North America. This beautiful valley and river sustain me. Sundance Co-op is circled in the picture. I am grateful for what nature offers and I want to give back.

Forty percent of greenhouse gas emissions (GHG) in the world are created through buildings: heating, cooling or running them. Most of the buildings, including homes, will still be standing in 50 years so what can be done to make them energy efficient and eliminate GHG's? These buildings can be retrofitted.

For the past 6 years I have helped spearhead a Deep Energy Retrofit (DER) project in the original 59 units in my co-op which when finished in 2022 will make our co-op emissions net neutral. Our DER is following the innovation of a panelization approach called Energiesprong developed in the Netherlands where over 5000 houses have been retrofitted already, with 15,000 more in the works. Projects are underway in a number of other European countries. Ours is the first project of its kind in Canada.

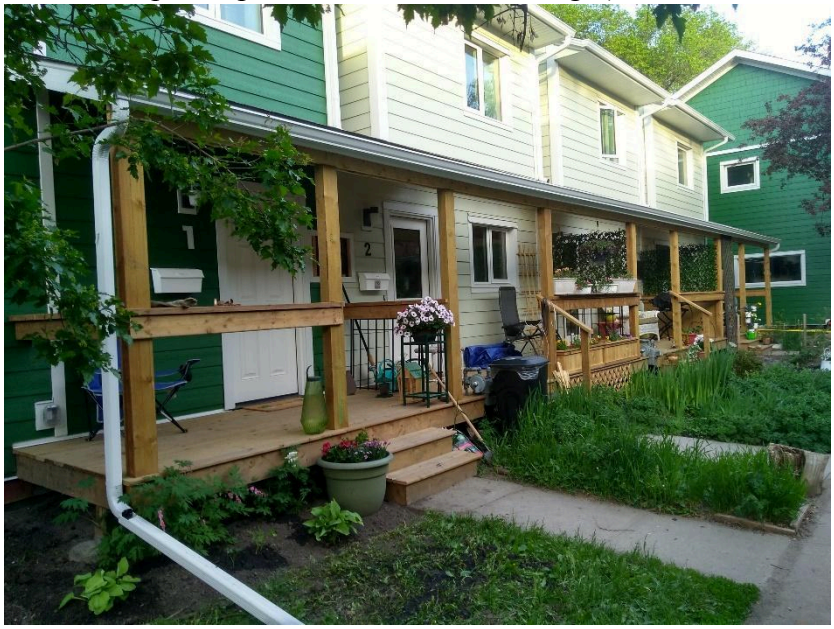
First precise pictures of each of the units are digitally captured to provide exact measurements so panels can be fabricated offsite. The eves and porches of the units are sawed off. The basements are insulated with high density foam from the outside right down to the footings after hydro-vac trenching. The panels are built in a small rural town and arrive with new windows, doors and siding already installed. They are "flown" by a huge crane to be installed over the existing building-envelope to save putting old building materials in the landfill. The old windows and doors are popped out and the panels installed. A new roof arrives already assembled in large sections, with new trusses and shingles, which are placed over the existing roof. Then a new type of

insulation made from recycled newspapers is blown into the spaces between the new panels and roofs and the old building. All while members remain in their homes. The increased energy efficiency will result in at least an 80% reduction in energy use. (Flying panel pictured on the right, February 2021.)

But we didn't want to stop there. We encouraged our membership to agree to upgrading our electrical source by laying all new lines underground through directional drilling, to jettisoning all gas furnaces and gas hot water tanks and replacing them with electric heat pumps and electric hot water tanks, to installing solar panels on all of our roofs which will provide 51% of our electrical needs, and finally to set up our own electrical metering system through which to buy the remaining electricity required from a wind/solar energy provider. In the end Sundance Co-op will go completely off fossil fuels and have zero GHG emissions. Because the buildings will be so airtight we have to install a new type of HVAC system that will ultimately mean great air quality. An added bonus.

This didn't come without effort and cost. Thousands of volunteer hours from the Sundance Planning and Development Committee comprised of 5 "seniors", mostly women and at least 2 of us with a spiritual practice to sustain and guide us. We have a supportive membership, a skilled project manager to work with us and one of the most innovative construction companies in the country. Everyone is dedicated to addressing the climate crisis. We received $2.5 million from the Canadian government to pilot this type of panelization retrofit. The total cost is near $10 million. To be able to refinance it was necessary to obtain a longer lease from the City of Edmonton that owns the land. After presentation to the City, in recognition of the DER, the lease was renewed for 60 years to 2098 at no additional cost beyond our current lease. We are working on refinancing the mortgage as well as on finding additional funding sources. We are committed to not increasing members' housing charges

as the goal of our co-op is to provide affordable housing. (Pictured on the left is a building after panels were installed.)



This 5 minute video about the DER was produced for the City of Edmonton Renewable series within their Change for Climate initiative. Sundance Planning and Development Committee members, Jean Ure and Sandy Susut, are interviewed, as well as Stuart Fix, engineer, and one of the partners in Butterwick Projects, the design-build firm contracted by Sundance. The video was made in 2019 during the pilot project when the panels were built onsite and the siding added after installation. The photographs show finished panels which were completed offsite “flying” in as the way it is now being done, plus the work on some of the units.

https://www.youtube.com/watch?v=hgNlwTIlqLI&list=PLwhxldqt5kXkRY_FqpUt5Ce-dzrLsyew-&index=2&t=0s

This is an innovative project that I wanted to share, to Seed as in Ziraat, to inspire others to consider for your own homes, or schools or businesses or public buildings. Something must be done about existing buildings to have any chance to prevent global warming beyond established international limits and to ensure a sustainable future. A website is under construction to share the learnings from this Deep Energy Retrofit project. If you would like additional information please email me at ssusut@shaw.ca