

RADIANCE COHOUSING

A FRIENDLY, GREEN COMMUNITY IN THE HEART OF SASKATOON



bldg.studio.inc



ABOUT US



Radiance Cohousing is a 9-unit townhouse complex in Saskatoon that was completed in the fall of 2018. The project was led by a diverse group of interested homeowners who pooled their resources, formed a development company, and worked together to plan, design, manage, and construct their own homes. The result: quality homes that respond to a changing climate and build community.

The project uses a cohousing ("collaborative housing") development approach, is seeking Passive House certification (an international green building standard), incorporates sustainable landscaping techniques, and is a partner of the Renewable Rides program. By combining cohousing with environmental design, this project demonstrates what's possible in terms of sustainable housing in cold-climate, urban settings.



Did you know?

Radiance Cohousing is Saskatchewan's second completed cohousing project and the first cohousing development in Canada to pursue Passive House certification. This one-of-a-kind project is an outstanding achievement in our community!

Construction
July 2017 – Oct 2018

MOVE IN!
Nov 2018

Landscaping
Aug 2018 – Oct 2019

OUR VISION



Radiance Cohousing is a multi-generational housing community whose purpose is to cultivate a high quality of life for its residents and the surrounding community. Residents respect others and the environment, while decisions are achieved through a consensus decision making process. By balancing independence and interdependence, residents have access to both individual space and privacy, as well as shared indoor and outdoor living space, resources, and experiences. The design and management of Radiance Cohousing offers its residents the opportunity to form meaningful relationships, live sustainably in Saskatoon, and work on common goals.



WHAT IS COHOUSING?



Cohousing (“collaborative housing”) is a housing model that includes individually owned homes built alongside shared space. The intent is to combine the privacy and comfort of having your own home, with the community and social benefits of having close knit neighbours and shared amenities.

Cohousing projects are also planned, developed, and managed by interested homeowners. As such, projects are designed to meet the needs of the people who will be living there. While developments can vary in terms of housing styles, living arrangements, age of residents, and types of shared spaces, a main thread found throughout all cohousing projects is that the layout creates opportunities for planned and unplanned interaction between residents. Projects typically range from 10-35 homes, a size big enough to support the costs and uses of shared features, but small enough that residents can easily work together and get to know each other.

The number of cohousing projects in Canada is growing. Not only is it a repeatable development model, but it accommodates various household structures and provides community to those who are seeking it. It appeals to a diversity of people and fills a gap in the current housing market.



WOLF WILLOW, SASKATOON (FIRST COMPLETE COHOUSING DEVELOPMENT IN SK)
PHOTO CREDIT: SHANNON DYCK



PRAIRIE SPRUCE COMMONS, REGINA (UNDER CONSTRUCTION)
RENDERING

WORKING TOGETHER



Consensus: Using consensus decision-making leads to group discussion and allows everyone's opinions to be considered. It helps residents form stronger relationships, communicate openly, and move forward on decisions together.

Sharing Economy: Residents share in the use and purchase of items (i.e. tools, supplies, food) where it makes sense to do so. This can reduce individual costs and benefit the environment because household goods are used more efficiently.

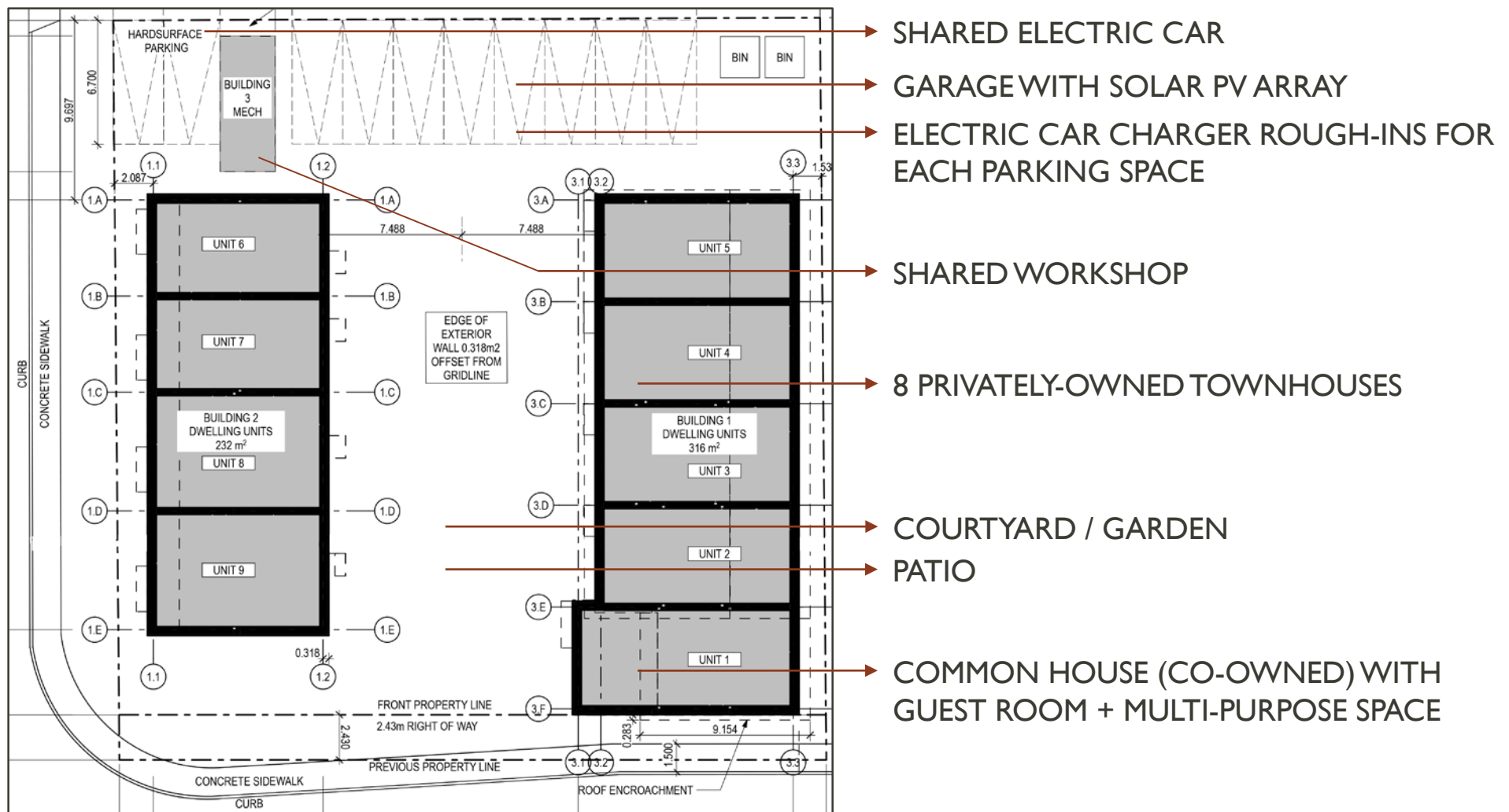
Support: Yard and site maintenance are shared responsibilities, members meet regularly for shared meals, and house-sitting, pet-sitting, and baby-sitting may be supported by neighbours.

Community: Cohousing residents tend to host events and work on projects together, as well as become active in existing community events and initiatives.



PRIVATE + SHARED SPACE

The layout and shared spaces are designed into the project by the people who will be living there through a co-planning process.



WHY COHOUSING?



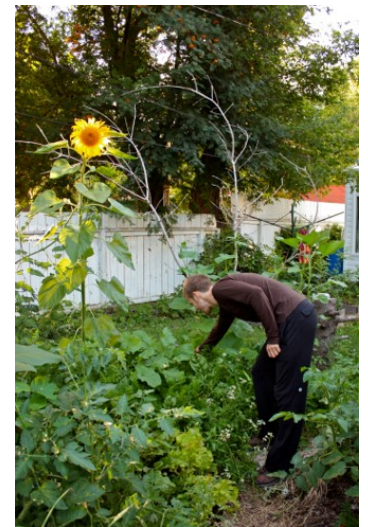
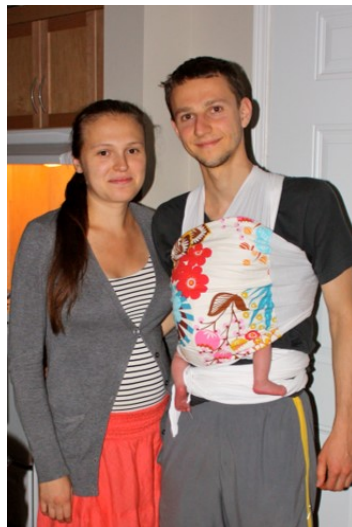
Living in cohousing allows us to get more out of where we live.

The shared areas extend our outdoor and indoor living space; we're provided with access to amenities such as a guest room, entertainment space, and large yard; we can easily borrow something or get help from our neighbours next door; and we can work on interesting projects together, socialize, and spend time with a great group of people.

We also have the opportunity to:

- Be part of a well-knit community and enjoy the experiences that come from living beside great neighbours;
- Live more sustainably while maintaining a high quality of life; and
- Participate in the creative process of designing and maintaining our homes.

MEANINGFUL RELATIONSHIPS | CO-CREATIVE PROCESS | PARTICIPATION | TRUST | COLLABORATION | SUPPORT | LOWER COSTS OF LIVING | SUSTAINABILITY | QUALITY OF LIFE

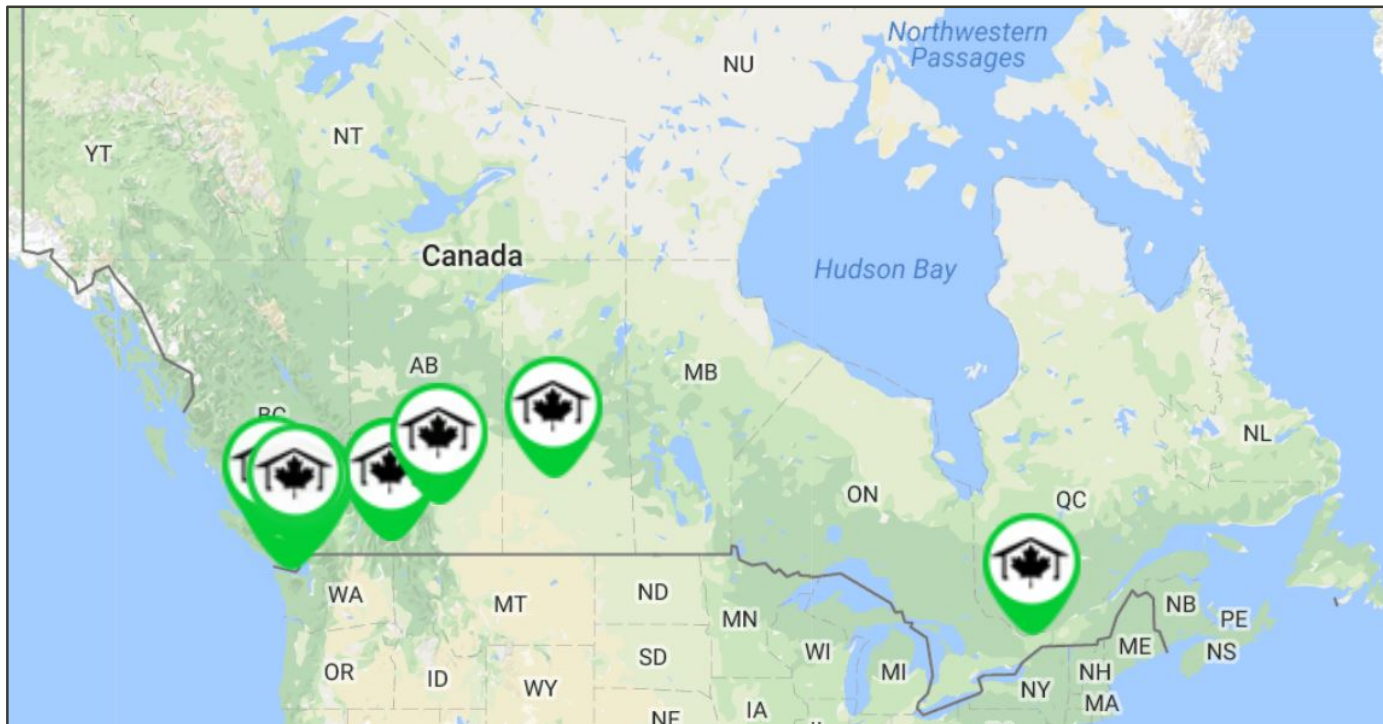


COHOUSING COMMUNITIES



The cohousing model emerged in Denmark in the 1960-70s and has been growing in popularity ever since.

Jan Gudmand-Hoyer is a Danish architect who is often cited as the “grandfather” of cohousing. As he states: “Cohousing is not related to a certain architectural style. It is a lifestyle.” cohabitas.com/news/view/110



NORTH AMERICA:
OVER 160 COMPLETED
100 IN DEVELOPMENT

CANADA:
14 COMPLETED
11 FORMING
11 IN DEVELOPMENT

SOURCE: COHOUSING.CA

PASSIVE HOUSE



Passive House is an international building standard that requires the structure to use no more than 15 kilowatt hours per square meter per year for space heating needs. Designing to meet this requirement has meant that the homes at Radiance Cohousing use 90% less space heating than regular Canadian homes and do not require furnaces. This is achieved through super insulation, air tightness, proper ventilation, and good quality south-facing windows.

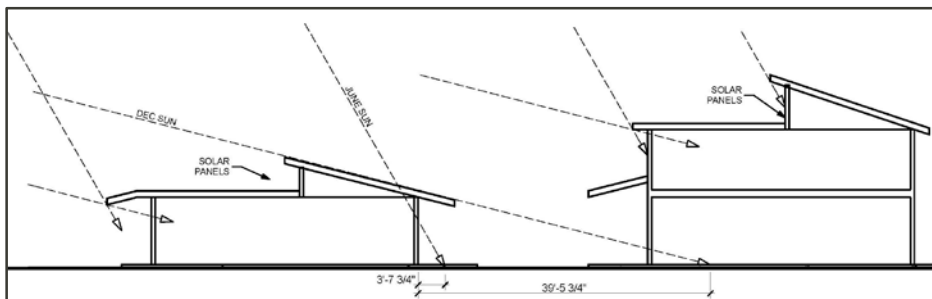
The Passive House approach has been established as one of the most energy-efficient and economically viable design methods currently available. It's been shown to be a very cost-effective method of creating net-zero buildings around the world, including in cold climate Canada, as much of the building science originated in Saskatchewan. Passive House is gaining traction in Canada and abroad; hundreds of projects have been completed in North America alone.

Passive House buildings are quiet, meet high air quality standards, and maintain comfortable temperatures and humidity levels. They significantly reduce greenhouse gas emissions, as well as provide a lower cost of living because monthly utility payments are so low.

PASSIVE HOUSE REQUIREMENT:
=15 kWh/m²/yr FOR SPACE HEATING

COMPARED TO AN AVERAGE CANADIAN HOME:
=150 kWh/m²/yr FOR SPACE HEATING

SOURCE: NRCAN ENERGY USE DATA HANDBOOK 2010 & ENERGY EFFICIENCY TRENDS IN CANADA 1990-2009



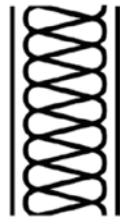
PASSIVE HOUSE IS ACHIEVED THROUGH:

- **SUPER INSULATION** (R65 WALLS & R100 ROOF IN SASK)
- **AIR TIGHTNESS** (CONFIRMED THROUGH A BLOWER DOOR TEST)
- **THERMAL BRIDGE-FREE**
- **APPROPRIATE FORM** (COMPACT, LESS EXPOSED WALLS)
- **SOLAR ORIENTATION**
- **HIGH-QUALITY WINDOWS** (TRIPLE PANED ARGON FILLED)
- **AIR QUALITY** (CONTINUOUS FRESH AIR; ENERGY RECOVERY VENTILATOR;)

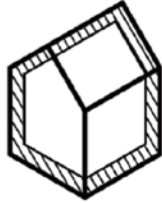
SOLAR ACCESS STUDY – RADIANCE COHOUSING
DESIGN: BLDG STUDIO

PASSIVE HOUSE PRINCIPLES

Five Principles of Passive House Design



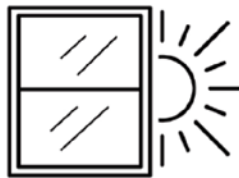
1. Super-insulation



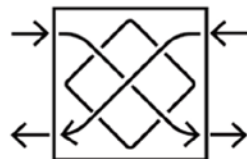
2. Airtight construction



3. Thermal bridge free



4. High quality windows with
solar orientation



5. Ventilation system with heat
recovery

PASSIVE HOUSE IN PRACTICE

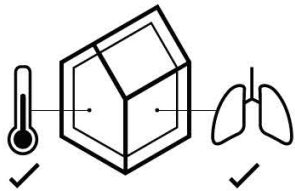


PHOTO CREDIT: SHANNON DYCK & MICHAEL NEMETH

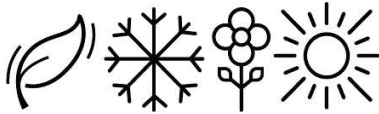
BENEFITS: PASSIVE HOUSE

COMFORTABLE | FRESH AIR | STABLE TEMPERATURE | QUIET | REDUCED UTILITY COSTS | SIMPLE & DURABLE SYSTEMS | QUALITY MATERIALS | GOOD FOR THE ENVIRONMENT

Feel Better:



- Year-round stable indoor air quality and temperature



- Quiet and comfortable throughout the changing seasons



- Substantial reduction in energy use and operating costs



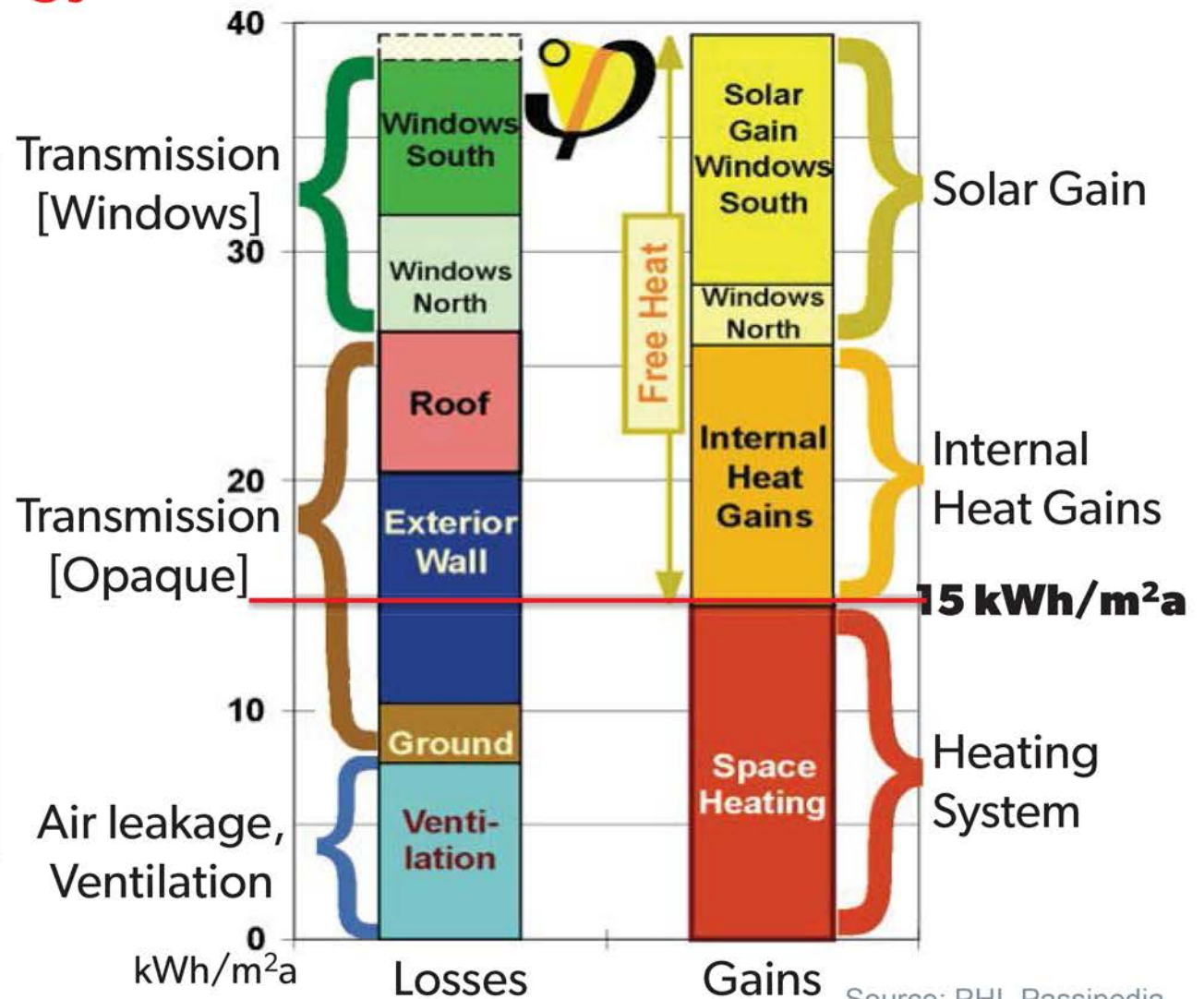
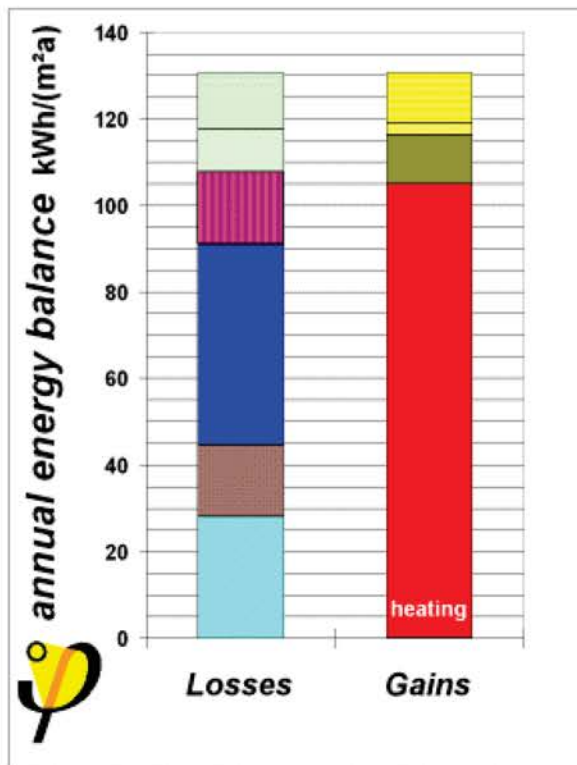
- Simple to use, durable systems



- Priceless peace of mind

NO FURNACES

Space Heating Energy Balance EN ISO 13790



Source: PHI, Passipedia

ECONOMICS

58% of Saskatoon's carbon pollution is due to buildings

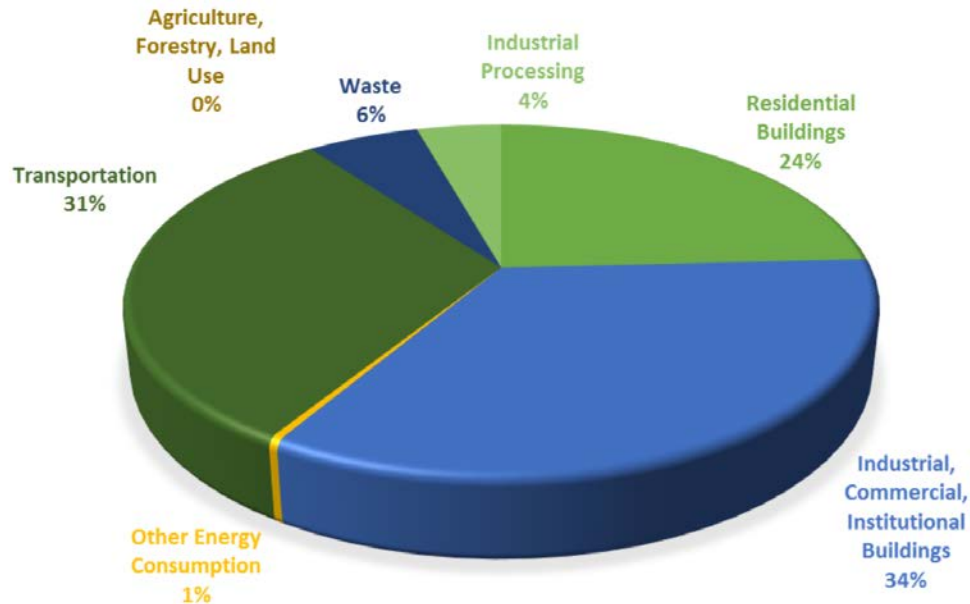
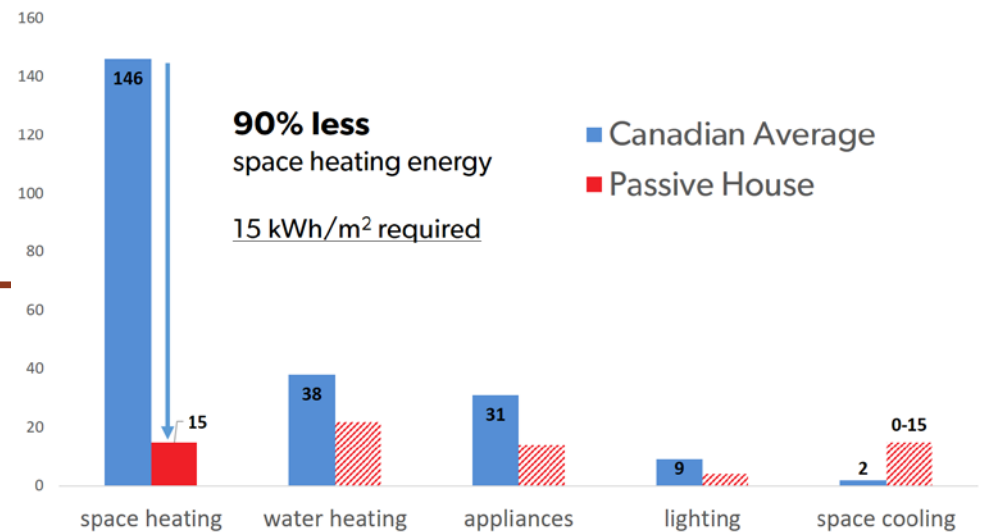


Figure 8 - Saskatoon Community Emissions - 2014

Passive House reduces space heating and related emissions by 90%

Energy Use Intensity (kWh Per m² Per Year) For Residential Buildings In Canada



source: NRCan Energy Use Data Handbook 2010 and Energy Efficiency Trends in Canada 1990-2009, graphic: Nem

Radiance Cohousing - Fossil Free Economics:

9 Townhouse Units (9,400 sq ft total)

- All units pre-sold
- 3 million total project cost: includes land, garage, landscaping, prof. fees
 - Construction contract = 1.87 million (~\$200 per sq ft)
- Approx. annual space heating cost of \$150 per unit
 - Remaining energy provided by renewables

Passive House Investment

- \$177,600 – 6% increase in project cost due to:
 - Improved Insulation, Airtightness, Windows, Ventilation systems
- Increased monthly mortgage costs are offset by energy cost savings

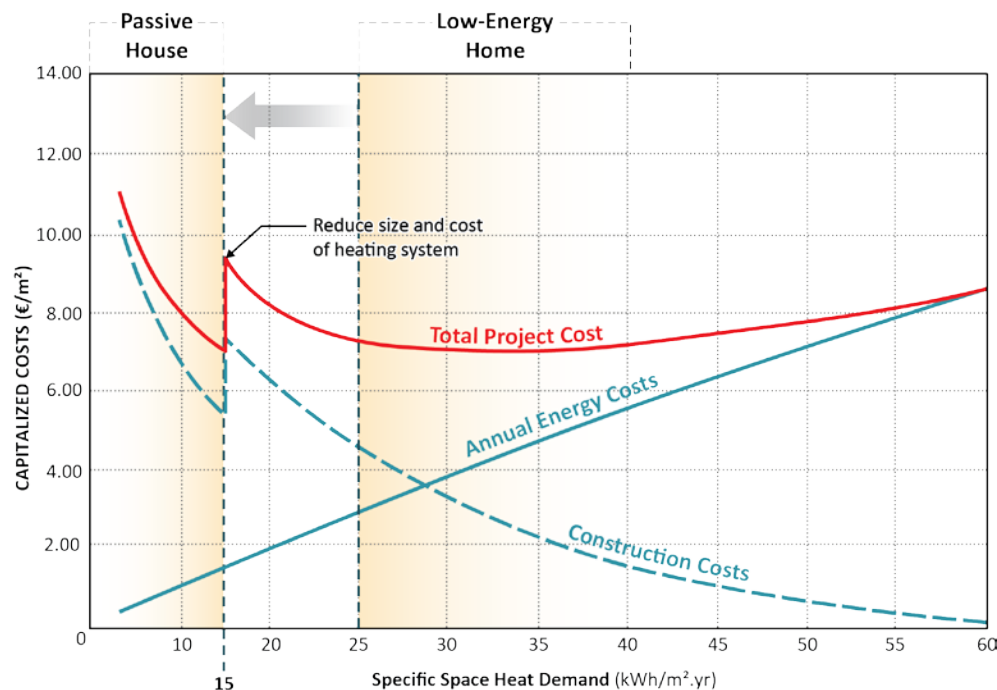
Project Energy Savings Per Year (compared to natural gas boiler)

- 158,000 kWh (which saves \$5,900/yr and reduces CO₂ by 39 tonnes/yr)
- Price of Saved Energy = 4 ¢/kWh (compared to Solar PV at 10-15 ¢/kWh)
- If this project was built in an area where only electric heating was available (i.e. rural/remote communities), savings would increase to \$22,400/yr

Tens of thousands of Passive Houses world-wide



Real carbon reductions with lowest lifecycle cost



Radiance Cohousing: Success through collaboration

- Working with Renew Development Cooperative using a Construction Management Contract with Cost-Savings Sharing.
- Amazing design team, led by BLDG Studio.
- Collaboration with SES Solar Coop for installation of Solar PV array.
- Collaboration with Saskatoon Carshare Coop to host electric vehicle.
- Passive House certified ventilation units being supplied by new local vendor, The Green Builder Supply.
- Centralized air-source heat pump system offers heating and cooling for all units.
- Passive House certified windows by Cascadia Windows (Langley, BC).
- Part of a Canada-wide pilot for Gutex wood fibre insulation (Germany). Supported by the Canadian Wood Council, FP Innovations, and 475 High Performance Building Supply. Gutex is considering expanding into Canada, which could lead to forestry industry development potential.
- The innovative Gutex + 2x6 wall system can be applied to deep energy retrofits, as well as new builds.

How can we kickstart the Passive House industry in Saskatchewan?

PACE financing, building code improvements, policy & bylaw changes to support green buildings, education & training, demonstration projects, incentives, floor space exclusions from property taxes for exterior wall thickness, amongst others.

RENEWABLE RIDES



The members of Radiance Cohousing are thrilled to host the SES Solar Co-op's largest solar array to date (the 126 solar panels generate 37.8 kilowatts of power), as well as one of the Saskatoon Carshare Co-op's (SCC) electric cars.

The solar panels and shared electric car are being provided through the Renewable Rides initiative, which is the first program of its kind in Canada that powers an electric car-share program with 100% solar energy. One of the SCC's five new electric vehicles is parked in Radiance Cohousing's visitor parking area and is available to any community member who joins the SCC.

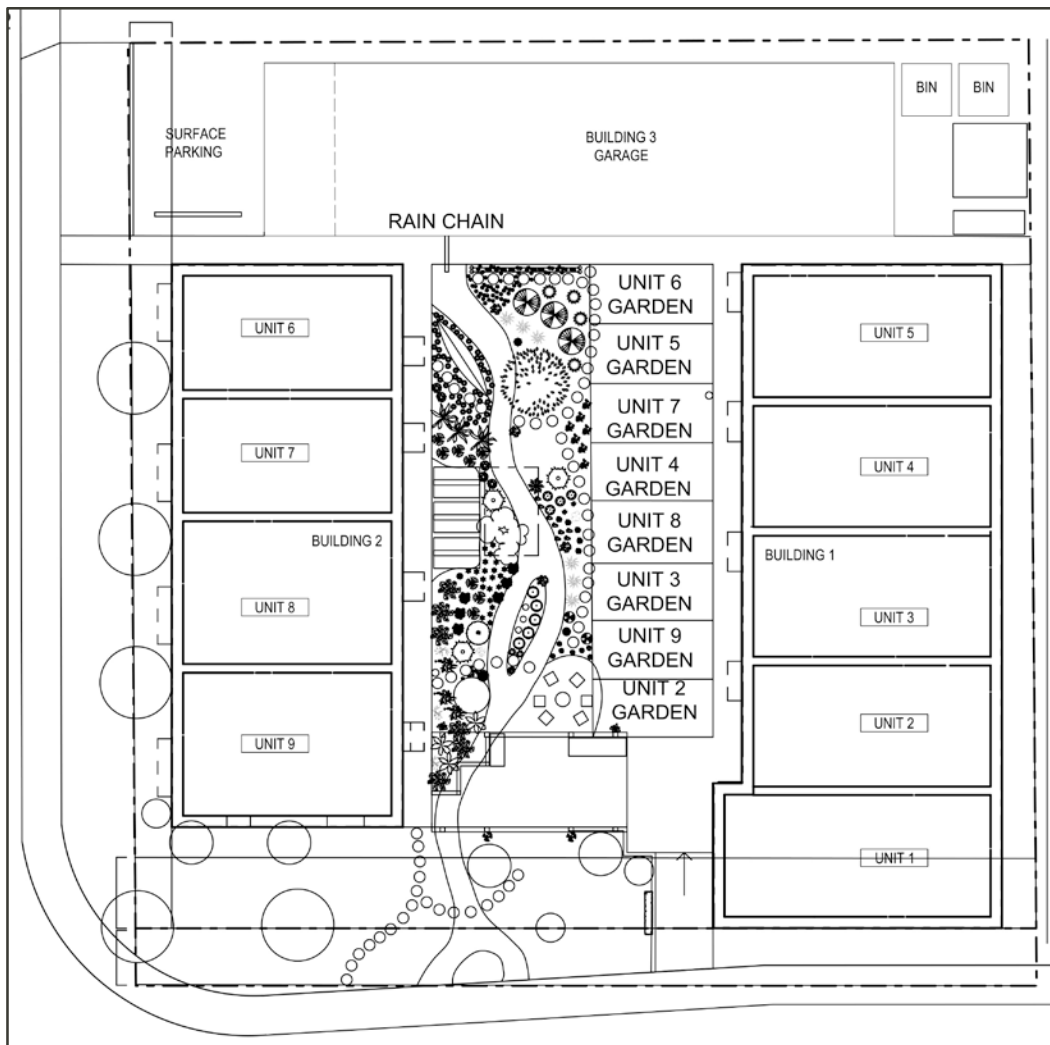
For more information: <http://environmentalsociety.ca/programs/renewable-rides>



SUSTAINABLE LANDSCAPING



Radiance Cohousing has designed its outdoor living space to be both sustainable and community-oriented.



REMEDIATED BROWNFIELD SITE

EDIBLE + NATIVE PLANTS

ONE GARDEN PLOT PER UNIT

9,100L UNDERGROUND RAIN WATER
TANK FOR IRRIGATION

DRY STREAM

COMPOST SYSTEM

OUTDOOR COOKING/SEATING AREA

BIKE RACK

CLOTHES LINE

COMMUNITY GARDEN askîy site (FUTURE)

COLD STORAGE (FUTURE)

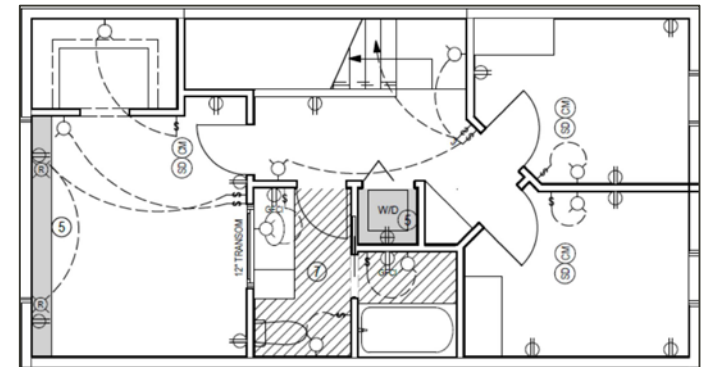
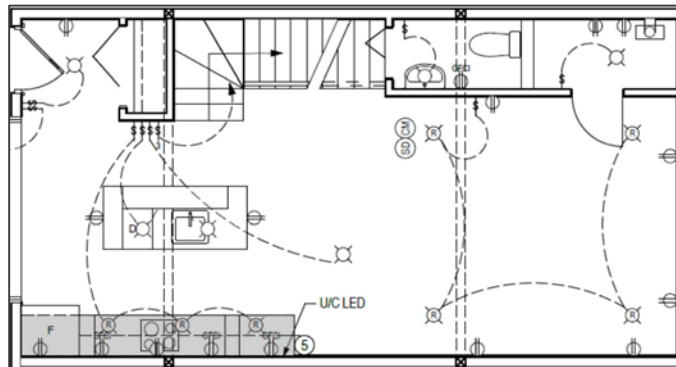
DESIGN BY: SHANNON DYCK

FLOOR PLANS

The Terrace

1224 ft²

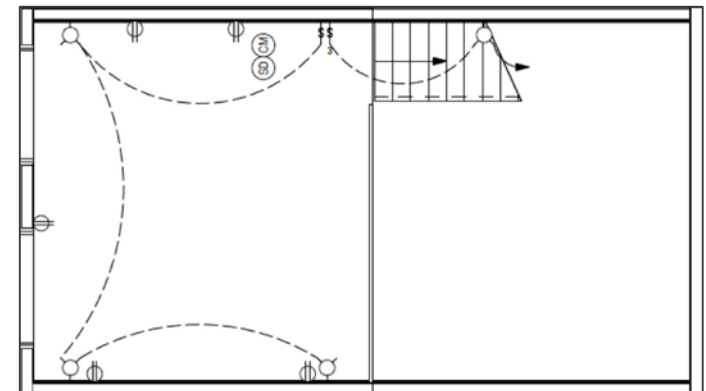
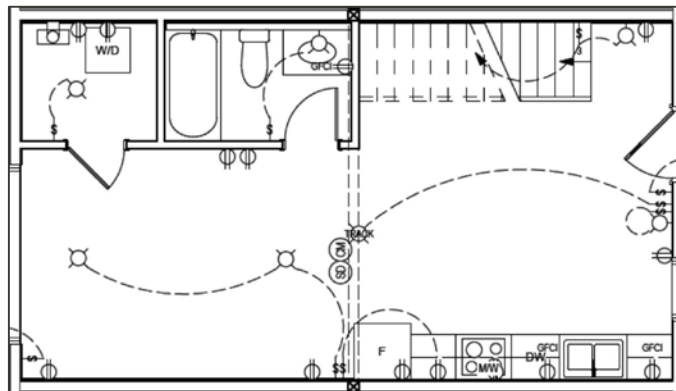
- 2 level
- 2-3 bedrooms
- 1.5 bathrooms
- Full kitchen
- Living room
- No basement



The Loft

775 ft²

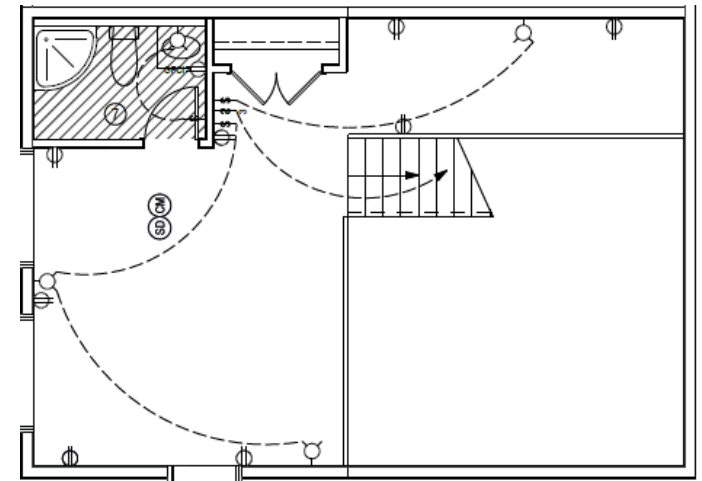
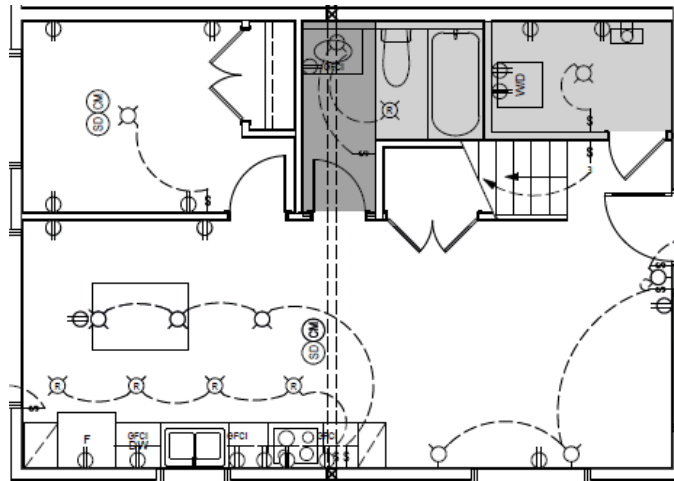
- 1.5 level (with loft)
- 1 bedroom
- 1 bathroom
- Full kitchen
- Living room
- No basement



FLOOR PLANS

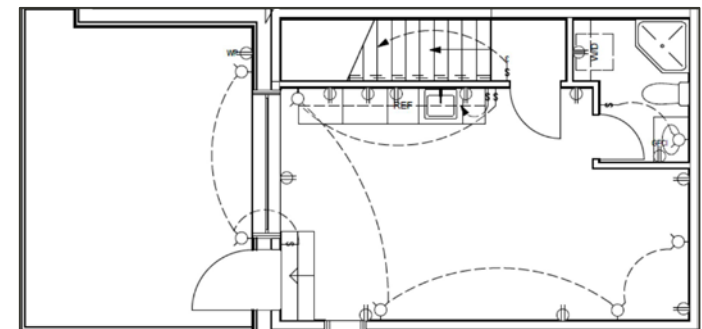
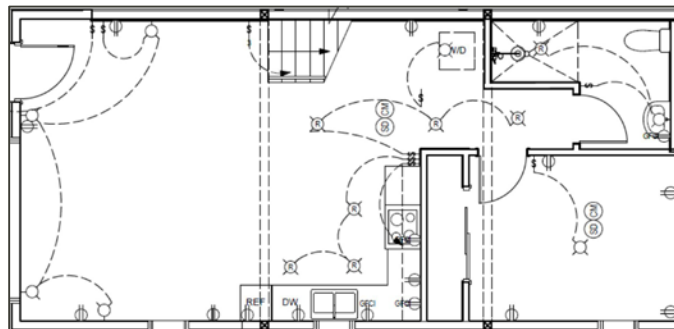
Loft + 1026 ft²

- 1.5 level (with loft)
- 1-2 bedrooms
- 2 bathrooms
- Full kitchen
- Living room
- No basement

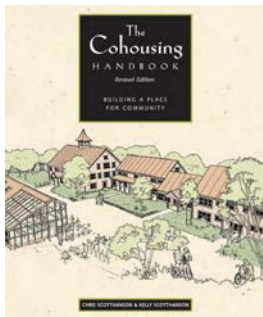


The Common House 1118 ft²

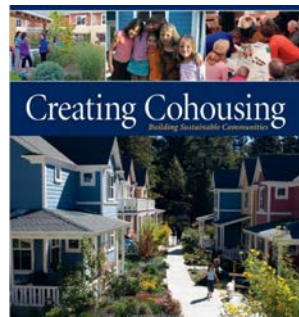
- 2 level
- Guest bedroom
- 1.5 bathrooms
- Full kitchen
- Multi-purpose space
- Accessible bedroom and bathroom
- Balcony on 2nd floor
- No basement



RESOURCES



[THE COHOUSING HANDBOOK](#)



[CREATING COHOUSING](#)



[PASSIVE HOUSE CANADA](#)



[PERMACULTURE INSTITUTE](#)



[SITES LANDSCAPING](#)




[CANADIAN COHOUSING NETWORK](#)

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