

ARCTIC OASIS - confidential

# Canadian North

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Integrated Housing · Food · Energy

Northeast B.C., Northern Alberta, Yukon, NWT

3 Apartment / 12-Person Social Housing | 3,200 sq ft | CSA A277 Modular

Issued by Quiet Water Resource Recovery Inc. © 2026



# 3,200 sq ft. 3 Apartments / 12 Beds. Built for $-35\text{ }^{\circ}\text{C}$ .



Floor / Growing Area **3,200 sq ft**

Occupancy **3 Families or 12 residents**

Construction **CSA A277 modular**

Envelope **R-40 Dynamic Shield**

Off-grid Capability **10+ days**

**$-35\text{ }^{\circ}\text{C}$**

Design temperature

**5,700**

Heating degree days

**$5\text{ }^{\circ}\text{C}$**

Colder than Fort McMurray

**Zone 7B**

NBC climate zone

# A Northern Housing Squeeze

Northern B.C., AB, Yukon & NWT face compounding pressures: scarce homes, costly food, harsh climate.



0.7%

## Rental Vacancy Rate

Effectively zero supply; waitlists across Peace Region, B.C..



\$1,250

## Avg Monthly Rent (1BR)

Outpaces median income growth in northern BC.

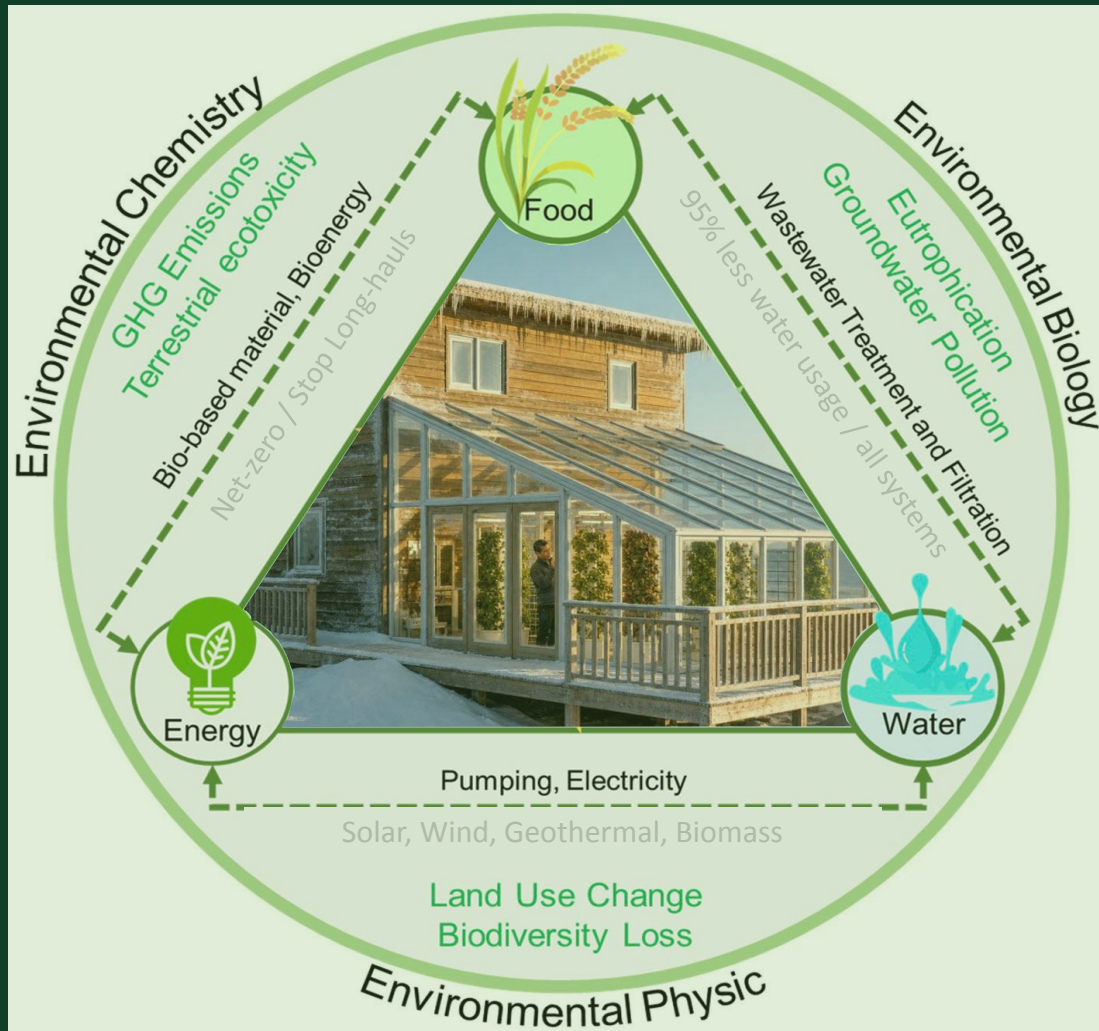


+34%

## Food Cost Premium

Northern BC grocery basket vs. provincial average.

# One Building. Respector of life's pillars.



01

## Food

Creating abundance within an oasis-like habitat that promotes growth in plants, animals and humans.

02

## Water

Every drop is considered precious. Collect it, use it, refresh it, filter it, reuse it again and again.

03

## Energy

Collect the abundance local to your build; be it solar, wind, geothermal or biomass in any combination that peaks efficiency.

# One Building. Three Systems. Zero Dependency.



01

## Shared Envelope

Dynamic Shield insulation lets food and people coexist in one ultra-tight shell.

02

## Shared Economics

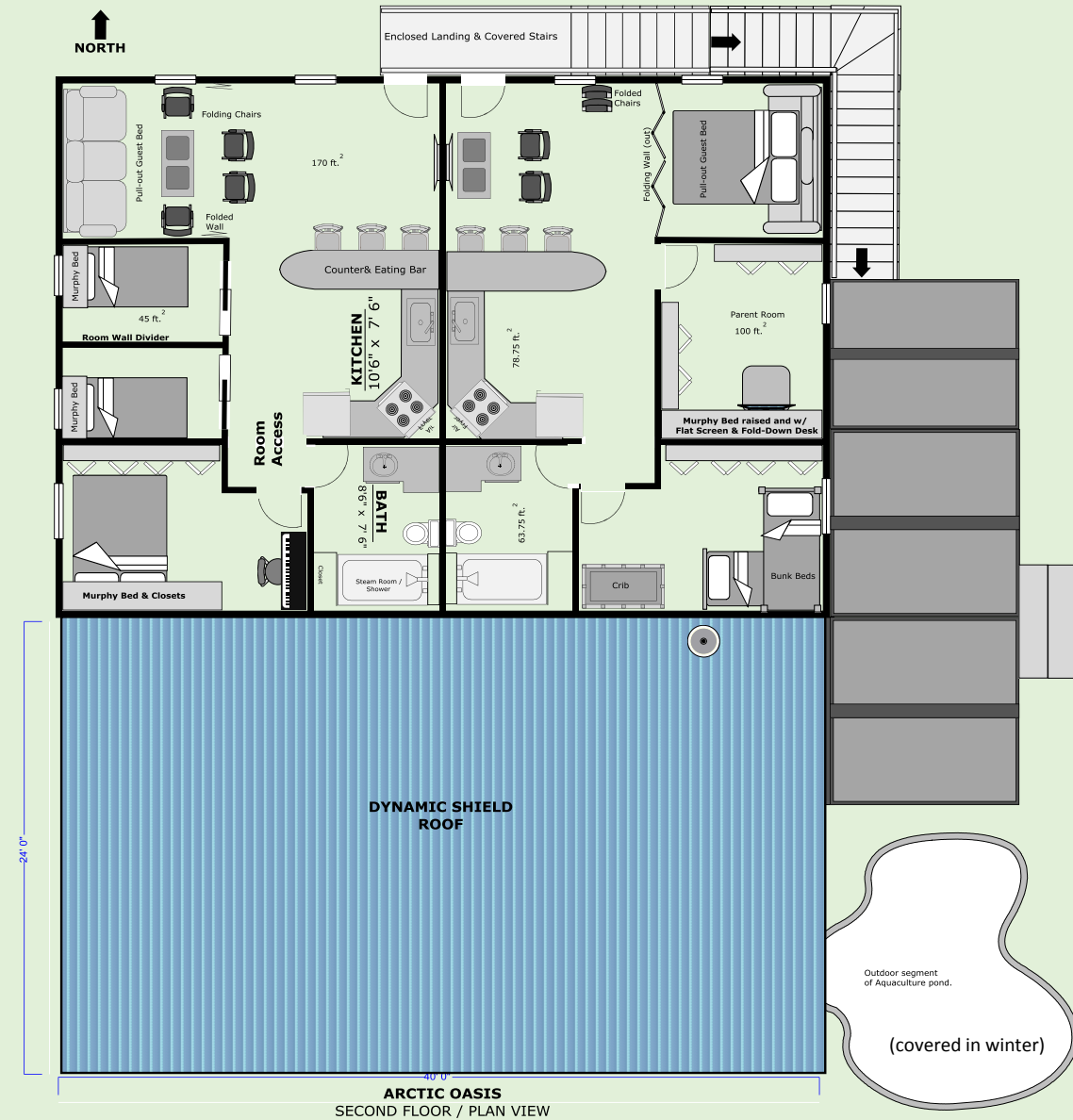
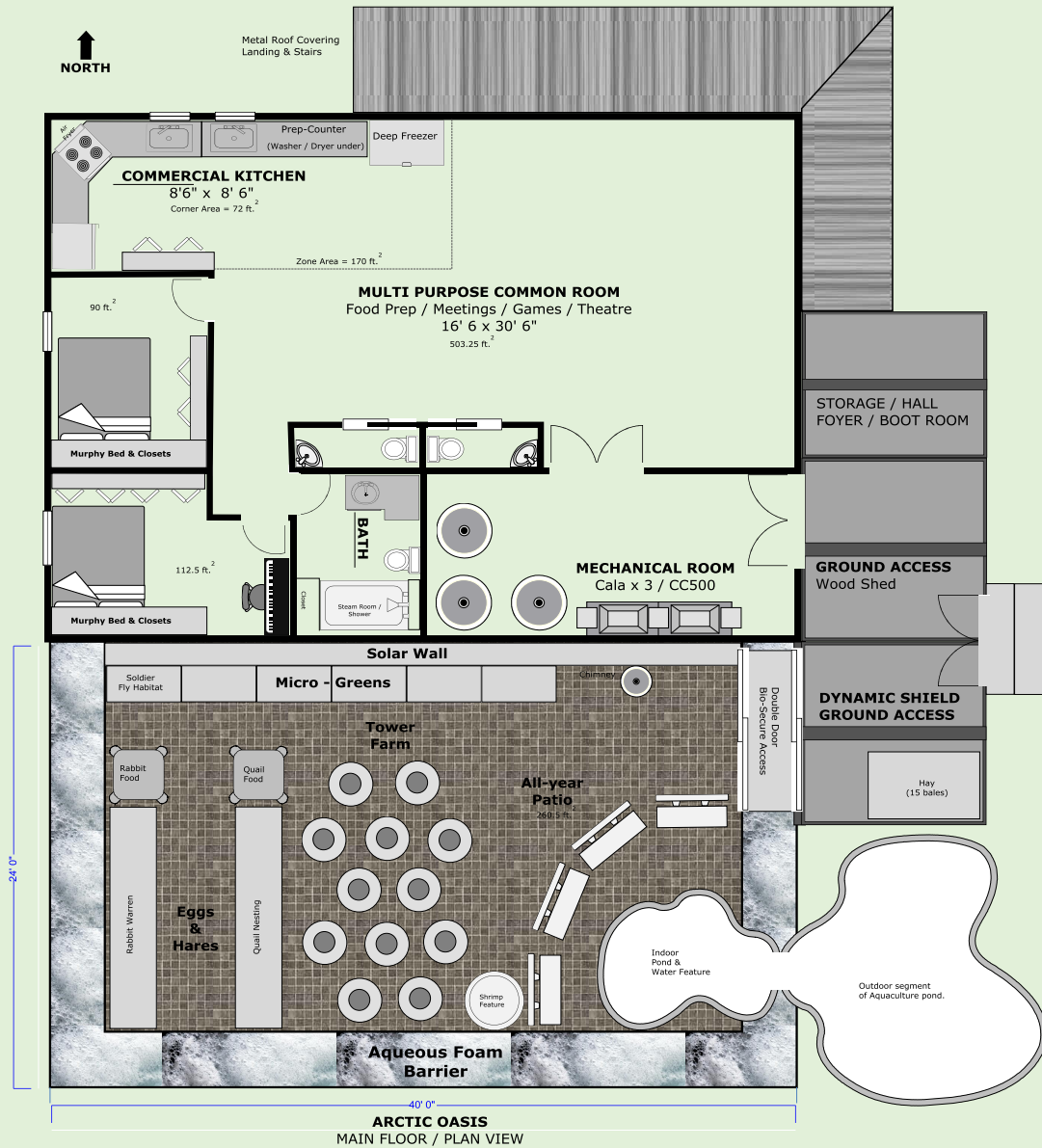
\$52K of food production offsets rent and powers the partnership return.

03

## Shared Energy

PVT panels heat water for hydroponics and the building loop.

# 03 · THE BUILDING LAYOUT SOLUTION – 3 Apartments (12 people plus guest spaces)



# Three Tiers of Operational Independence

From everyday grid efficiency to multi-day blackout resilience or off-grid operations.



# Choosing the Right Tier

Attribute	Tier 1 — Grid-Tied	Tier 2 — Hybrid	Tier 3 — Off-Grid
Capital Premium	Baseline	<b>+\$80K</b>	<b>+\$180K</b>
Battery Storage	None	40 kWh LiFePO4	80 kWh LiFePO4
Backup Generation	None	Optional	Biomass / electricity
Autonomy at -35 °C	Grid-dependent	~24 hours	<b>10+ days</b>
Annual Energy Cost	<b>\$6,800</b>	<b>\$3,400</b>	<b>\$1,200</b>
Best For	Stable urban grid	Moderate outage risk	Remote / climate-critical sites

*Recommended for Dawson Creek: Tier 3 — Off-Grid. Justified by remoteness, winter severity, and Treaty 8 community resilience priorities.*

# Year-Round Production **Inside the Dynamic Envelope**



**01**

## **Aeroponics**

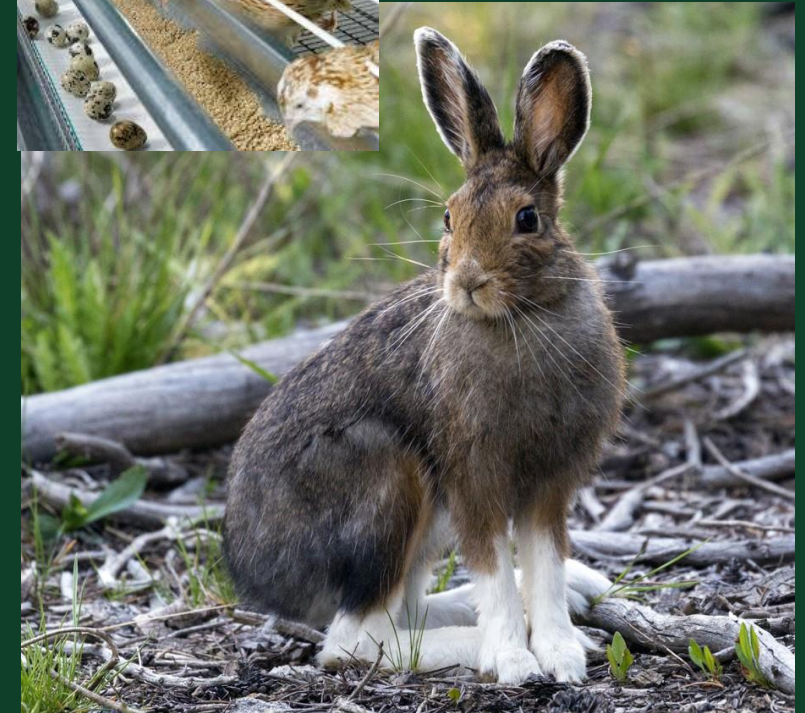
Vertical aeroponic towers. ~1,800 lbs leafy greens & herbs per year.



**02**

## **Aquaponics Loop**

Tilapia = 600 lbs fish + supplemental greens annually w/ water filtered by shrimp (polyculture).



**03**

## **Quail Egg & Rabbit Production**

Culturally-aligned protein. ~400 lbs dressed meat per year.

# What the System Produces — In Dollars.

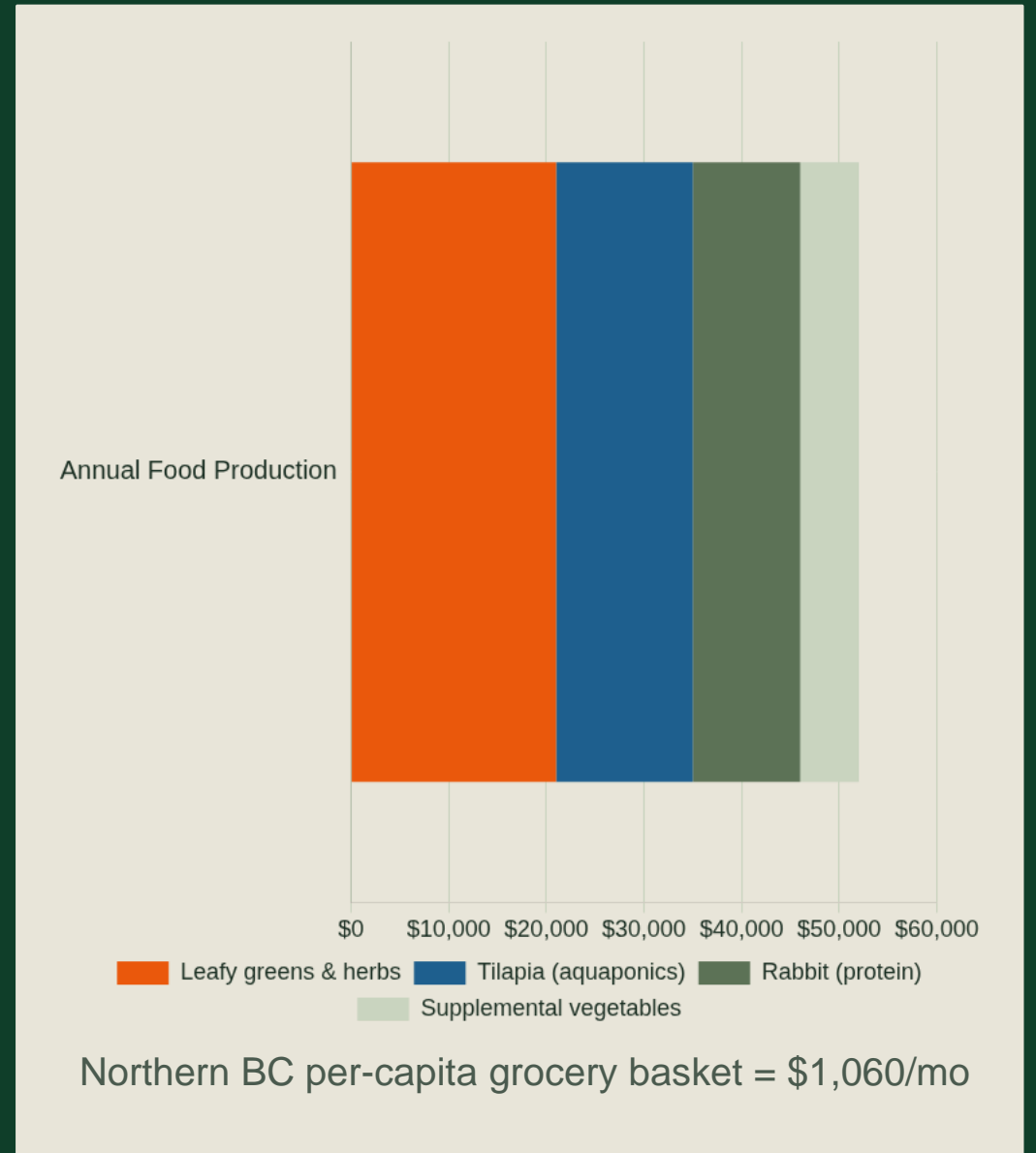
**\$52,000**

Annual food value produced on-site

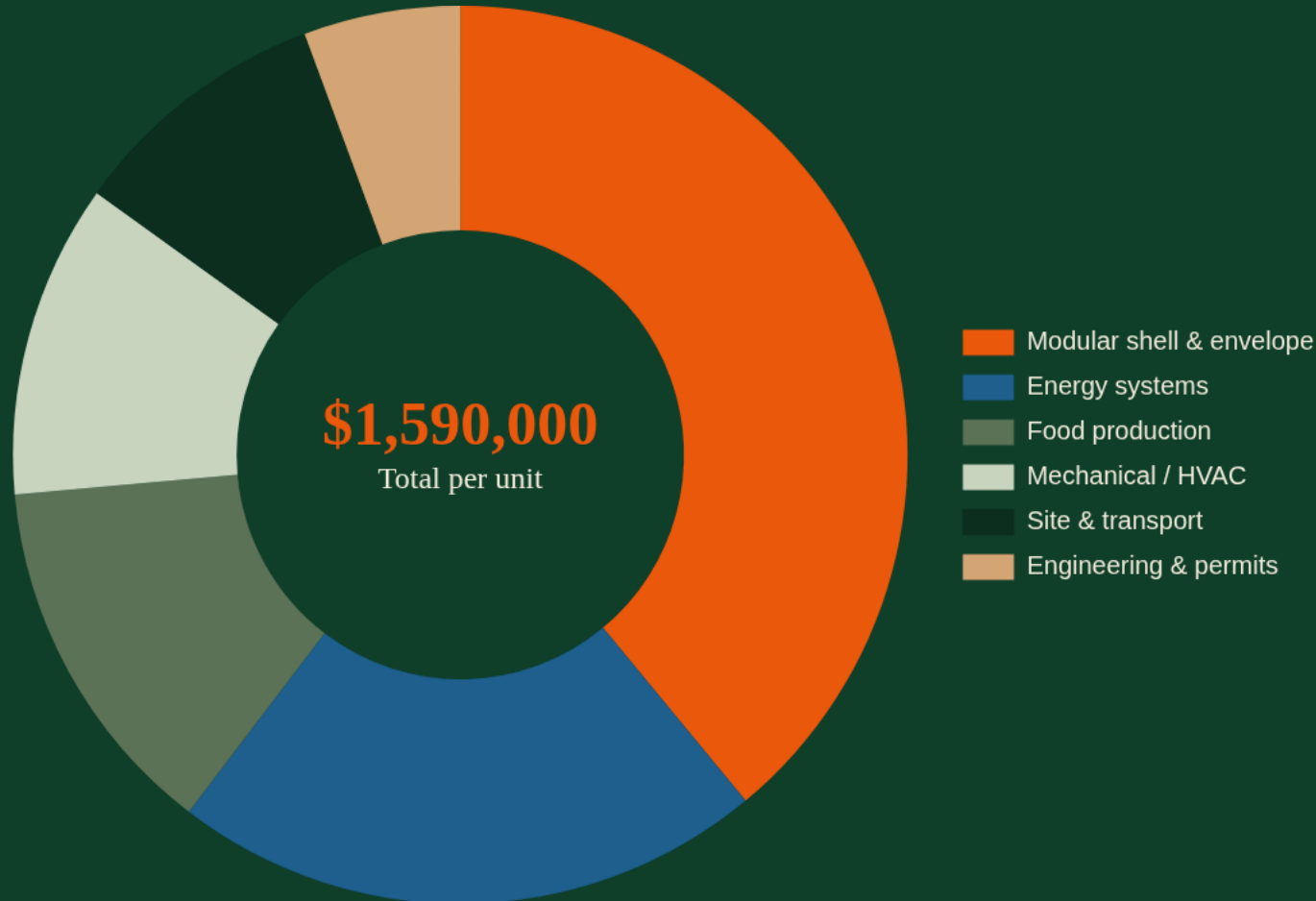
**\$361**

per resident, per month

Equivalent to 34% offset of northern BC household grocery spend for a single adult.



# \$1.58 – \$1.60 M Per Unit



Category	Cost (CAD)	%
Modular shell & envelope	\$620,000	39%
Energy systems	\$340,000	21%
Food production	\$210,000	13%
Mechanical / HVAC	\$180,000	11%
Site & transport	\$150,000	10%
Engineering & permits	\$90,000	6%
<b>TOTAL</b>	<b>\$1,590,000</b>	<b>100%</b>

# Stacking the Grant Stack for B.C. build

**65%**

≈ \$1,030,000

Capital expected to be covered through combined federal + BC programs.

## Federal

### CMHC Affordable Housing Fund

Capital cost-sharing for new affordable units

### ISC Infrastructure (Indigenous Services Canada)

On-reserve & Indigenous-partnered builds

### NRCan CERRC

Clean Energy for Rural & Remote Communities

### AAFC Local Food Infrastructure

Northern food security capital

## BC Provincial

### BC Housing — Indigenous Housing Fund

Operating + capital for Indigenous-led housing

### BCICEI

BC Indigenous Clean Energy Initiative

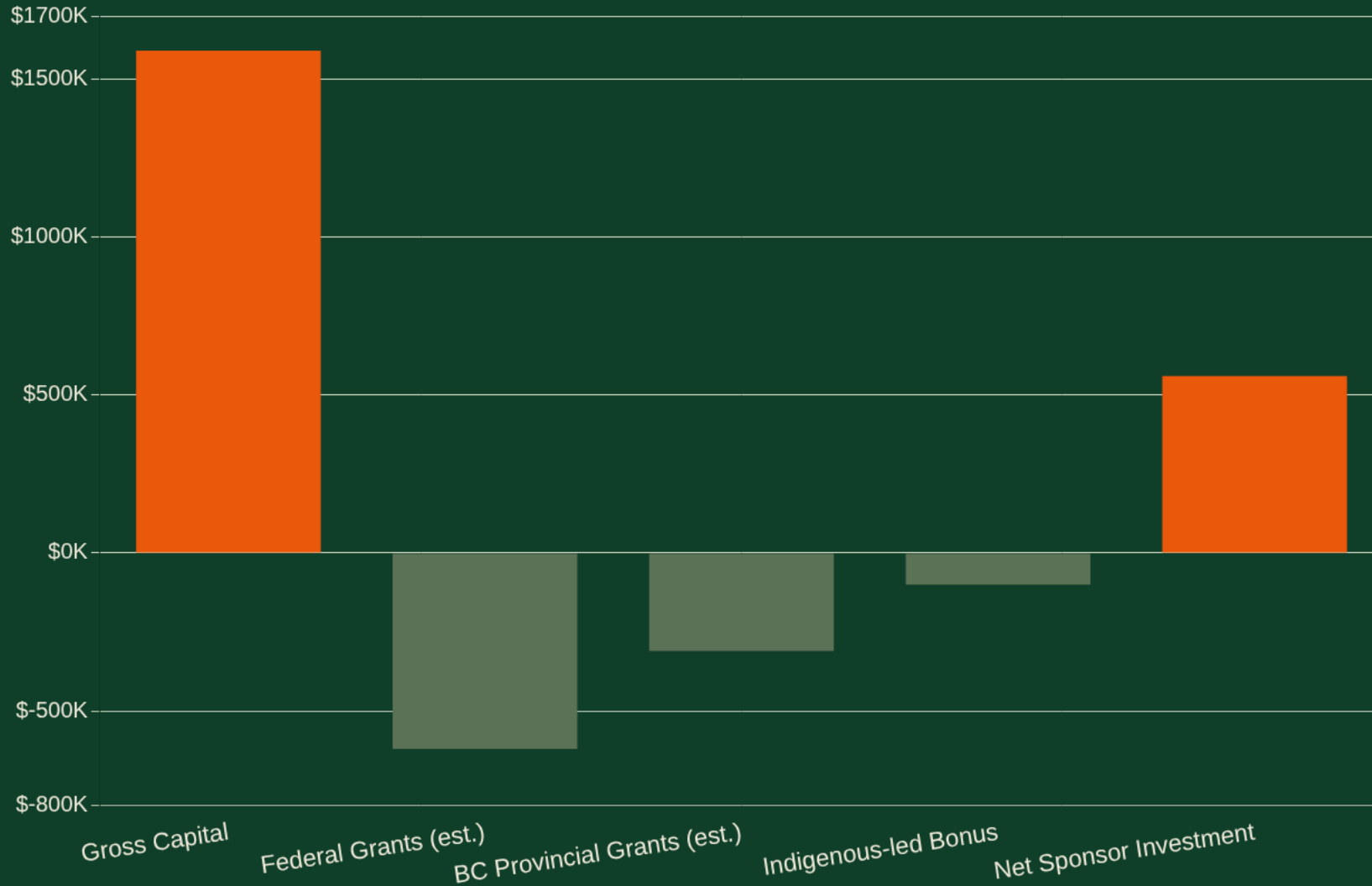
### NDIT Northern Housing Incentive

Northern Development Initiative Trust

### BC Hydro Indigenous Communities

Energy efficiency & generation rebates

# What the Sponsor Actually Funds



**~\$560K**

Net sponsor investment per unit

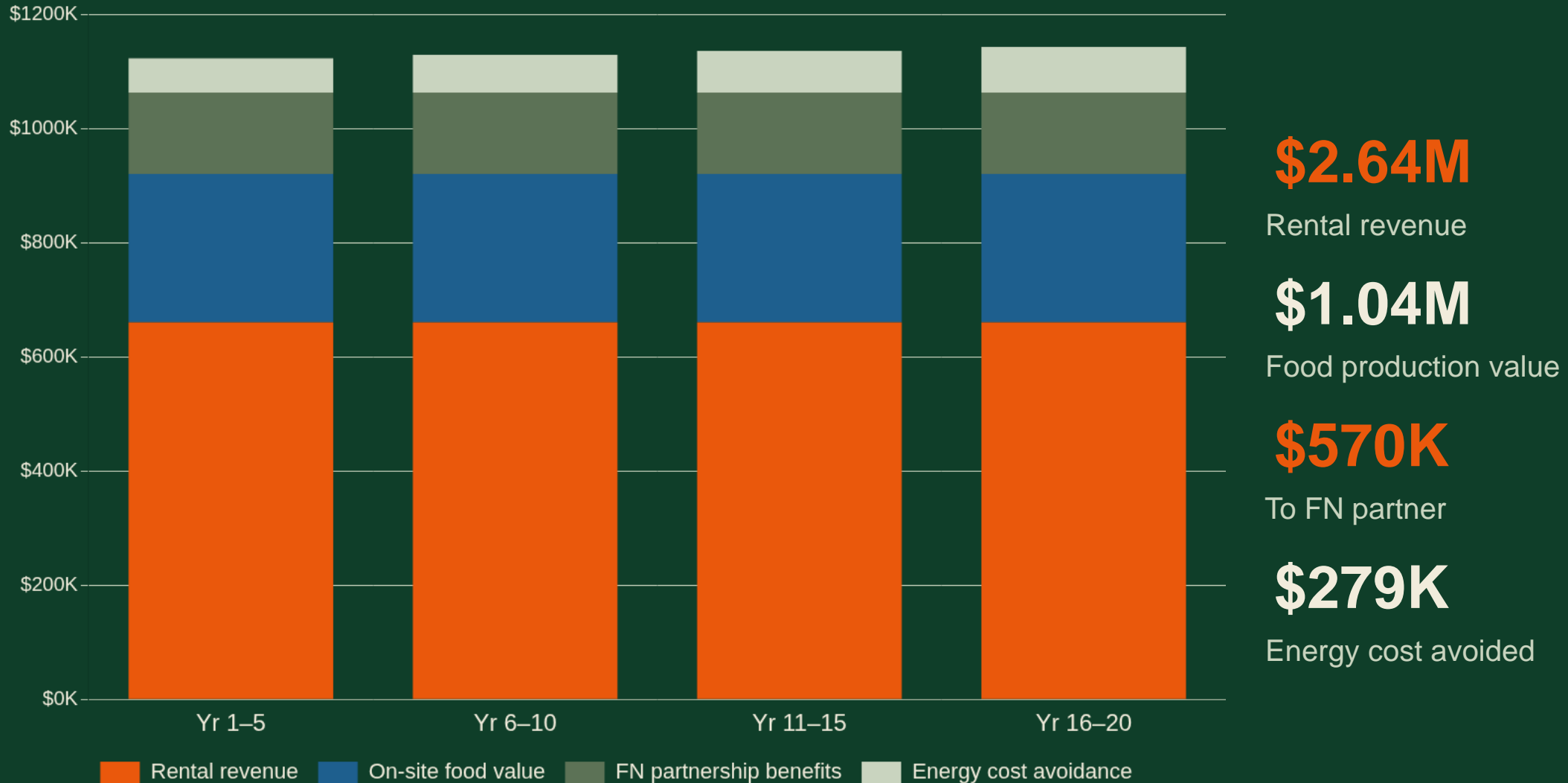
**65%**

Grant coverage achieved

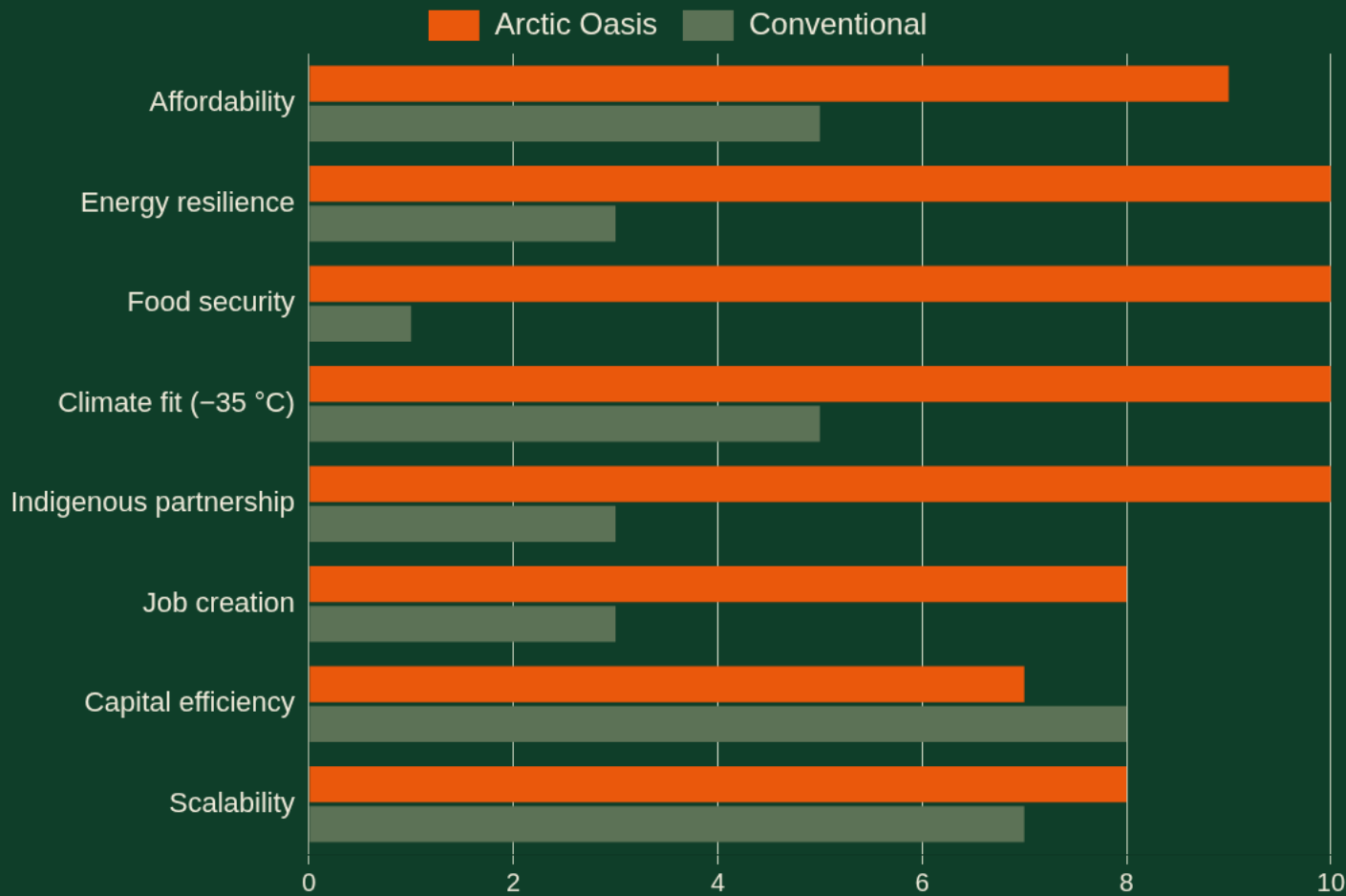
**\$47K**

Net cost per resident housed

# Where the Value Flows Over Two Decades



# Eight Criteria, Two Models, One Clear Winner



**72 / 80**

Arctic Oasis Total Score

**35 / 80**

Conventional Total Score

Arctic Oasis scores 2x across the criteria weighted for northern Indigenous social housing.

*Capital efficiency is the only criterion where conventional housing leads — and grants close the gap.*

# What Could Go Wrong — and How We Handle It

## Grant Timing

Funding cycles misalign with build schedule, delaying start.

### ▶ Mitigation

Parallel applications across 4 federal + 4 provincial pots; bridge financing pre-arranged with NDIIT.

## Market & Cost Inflation

Construction & equipment costs escalate beyond \$1.6M envelope.

### ▶ Mitigation

Locked modular fab pricing; 6% contingency reserve; phased procurement of energy and food systems.

## Construction & Climate

Winter site work and remote logistics extend timeline.

### ▶ Mitigation

CSA A277 off-site fabrication; foundation work in summer window; modular delivery convoy with northern contractor.

# Build a self sufficient sub-division



## Features

**Energy Independent**

Renewables

**No sewage**

On-site

**Food Independent**

On-site raised

**Community**

Oasis living

# Quiet Water Resource Recovery Inc. ©

## Creative engineering: life without waste



### Contact

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