



Grow

Food

Healthy

Smart



OUTLINE

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WHO ARE WE?

Located in the Blue Ridge Mountains of Boone, NC, **SunCatcher Passive Solar Greenhouses** is dedicated to helping you take advantage of the cutting edge design and development of greenhouse technology.

SunCatchers are designed to make your growing simpler, more eco-friendly and more effective. By solving conventional greenhouse problems associated with heating, cooling, carbon dioxide, light and humidity levels, our patented **SunCatcher Passive Solar Greenhouses** use industry-leading solutions and very little or NO fossil fuel energy.

With recent advances in materials and automation, SunCatcher is working diligently to keep our products state of the art.



Boone, NC

WHY A SUNCATCHER?

A major source of long-term, year-round local food security

Reduced cost of ownership, long term operational and maintenance costs

Improved plant growth via more sunlight and CO₂

Naturally regulates excess condensation, and minimizes phototropism

Low or no ongoing fossil fuel usage

Eco-friendly and long lasting materials to withstand extreme weather

A beautiful space you will love growing, working and spending time in

PRODUCT OVERVIEW

- Patented design combines over 40 years of research, science, knowledge, and technology.

- Industry-leading eco-friendly materials combined with our data-driven design makes a passive solar greenhouse that outlasts and outperforms all other greenhouses.

- This passive solar design eliminates fossil fuel requirements and enhances winter sunlight in growing areas (minimal phototropism). With a few solar panels powering 12V DC, your SunCatcher can be high tech and totally off the grid.

- Thermal mass retains heat during the day and releases it at night to naturally regulate temperature range.

- Passive ventilation allows fresh CO₂-rich air exchanges during cold, sunny days – we expect this will increase plant growth by 20%+ ([research here](#), we see 600-700ppm).

SUNCATCHER PRODUCTS FOR SALE

Carolina

12x24, Constructed on site using Eco-Panels.
Total construction cost starts at ~\$32,000



Durango

16x32, Constructed on site using Eco-Panels.
Total construction cost starts at ~\$43,000



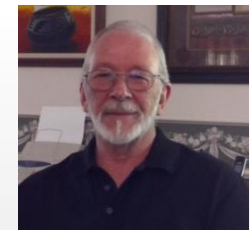
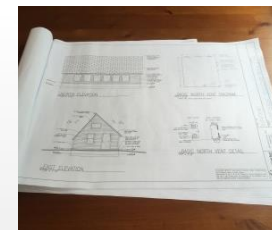
Linn Cove

1000+ sq ft, under development



Blueprints & Consulting

For custom projects / DIY



Case Study

CASE STUDY - SUMMARY

- Location: **Boone, NC**
- Use Case: **Neighborhood Vegetable Grow**
- Model: **Durango (~500 Sq. Ft.)**
- Yields: **2,500 Pounds of Mixed Vegetables Per Annum**
- Total Initial Cost: **\$47,900**
- Total Installation Time: **14 weeks from order**
- Expected Lifetime: **50+ years**
- Annual HVAC Costs: **\$0**



Keys to Success:

- Used some volunteer labor, minimal foundation to save on construction costs
- Contractor was certified with SunCatcher
- Community rotates operation, so no automation needed

CASE STUDY – KEY BENEFITS

- Community can rely on SunCatcher to keep growing through their lifetimes without major maintenance
- Sturdy, low-overhead community growing space raises nearby property value, provides a comfortable shared commons year round
- Wall-installed thermal mass provides more growing space, but growers did not install automation as they enjoy spending time in SunCatcher every day to monitor conditions
- Increased resiliency to climate, economy, extreme weather endangering food supply
- Growers take pride in sustainable practices and higher yields than conventional greenhouses



CASE STUDY – COST BREAKDOWN

Item	Description	Cost	Tax	Shipping	Total
SunCatcher Kit	Blueprints, Eco-Panels, Glazing, Doors, Windows	\$22,100	\$1,500	Local purchase	\$23,600
Contractor	Labor, Foundation, Roofing, Siding, Paint, Misc Hardware, Permits	\$21,000	\$1,400	Local purchase	\$22,400
Plumbing and Electrical	Not used	N/A			\$0
Thermal Mass		\$2,000	\$100	\$100	\$2,200
Automation	Not used	N/A			\$0
Total					\$48,200

COMPARISON TO CONVENTIONAL



Model Comparison	SunCatcher	Conventional (double layer polycarbonate)
Lifetime	30-50 years+	10 years
Construction cost	\$43,000	\$31,000 (replace glazing every 4 years, + 1 “rebuild” in 30 years)
30 year HVAC cost	\$0	\$13,000
Additional Benefits & Risks	Benefits: <ul style="list-style-type: none"> - Higher grow yields than conventional - Increase property value for life - Minimal carbon footprint - Amazing shared space 	Risks: <ul style="list-style-type: none"> - Extreme weather may generate maintenance costs, headaches - Increase in gas or electric prices make it more expensive - Contributes to climate change and pollution (replacing glazing)

Assumptions:

- Costs calculated as Net Present Value over 30 years with 3% discount rate. Cost for 500 square foot model (“Durango”).
- HVAC costs from [Natural gas prices, greenhouse heating calculator](#). (assume 8mm twin polycarbonate, 7mo/yr, 65 in 37 out)
- Cooling rough estimated @ \$0.25/sq. ft. a la calculations [here](#)
- Initial construction cost for conventional estimated \$13,500 from [here](#).

Construction Process

KIT CONSTRUCTION PROCESS

Phase 1 Scope Finalize

- Customer works with contractor to determine construction plan
- Obtain permits
- Develop internal grow plan

Phase 2 Manufacture & Install

- Eco-Shell manufacturing & delivery (8-10 weeks)
- Lay foundation
- Dry-in assembly (3-4 days)
- Finish interior / exterior (1-2 weeks)
- Install plumbing, electrical

Phase 3 Finish & Enjoy

- Furnish your SunCatcher
- Add any interior extras
- Begin grow plans
- Iterate, experiment, improve
- **Enjoy all year round!**

KEYS FOR SUCCESSFUL CONSTRUCTION AND USE

Location and Orientation align with passive solar principles (clear southern exposure)

Contractor is trained with Eco-Shell and other materials assembly, follows blueprints, does quality work

Changes in materials and design from suggested options are minimal, and in-line with passive solar principles

Owner is committed to spending significant, consistent time operating and growing in the SunCatcher

Thermal mass and other interior elements follow passive solar best practices; Owner follows provided operating principles around growing, venting, etc.

