Green Home Montana: 
Eco-friendly Housing and Living Practices 

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Choosing a Research Topic

Considerations

- Natural Resources and Sustainability theme
- Global Interest
- Relevant for Montana
- Large Target Audience

Final Result

Use global information to inform sustainable housing and living practices specific to western Montana.
Research Question

How can we better help residents of western Montana implement eco-friendly housing practices that are locally appropriate and relevant?
Sub-Questions

- Terminology
- Research methods
- History
- Building Characteristics
- Local Elements
- Global Building Aspect
What We Found From Our Research
Terminology—How We Speak Matters!

What Is Most Important?
Framework

What We Used:
- Low carbon lifestyle
- High-performance homes
- Sustainable lifestyle
- Eco Friendly housing

What We Did Not Use:
- Environmentally sustainable
- Sustainable House
- Climate Change/ Global Warming
Research Methods

• Sources used:
  ○ Peer-reviewed journal articles
    ■ University of Montana’s comprehensive search tool, OneSearch
    ■ Search terms established based on “Terminology” research
  ○ Personal interviews
    ■ Chosen based on relevant experience, skills, and green housing certifications
  ○ Websites
    ■ Vetted, reliable sources
  ○ Survey
Research Methods

- Survey Techniques
  - In-person surveying
    - Better suited for our demographic
    - Allows for dialogue with our target audience

https://wsnews.org/2020/02/ws-prevention-survey/
History

- Green building techniques date back to ancient times
- Common practice to build green industrial & commercial buildings
- Residential buildings are just now becoming popular

https://www.rankred.com/examples-of-green-architecture-technology/
Building Characteristics

- Thermostats/ Ductwork
- Space Heating and Cooling Equipment
- Insulation/Air Sealing
- Water Efficiency
- Energy/Atmosphere
- Indoor Environment Quality
- Heating and Cooling
- Home Site Location
- Windows and Doors
- Appliances
- Insulation
Glo European Windows

- Glo European Windows
- Based in Missoula, Montana
- European windows from Poland
Local Elements

- Semi-arid climate
- 15 inches of precip a year
- Average elevation 3,000-3,500ft
- Mountainous
- Four distinct seasons
Global Exchange

- Other countries & regions have unique green housing techniques too
- We referenced other places with similar characteristics for inspiration and techniques
- Green housing techniques can be shared between global communities
Illawarra Flame House - Australia

A now net-zero, retrofitted fibro-house located in southeast Australia.

Features include:
- Solar panels
- Rainwater collection
- Gray water system
- Energy efficient appliances
- Building management system

Why look to Australia?
- Semi-arid climate
- Similar annual rainfall
Passivhaus - Germany

A high performance home that is up to 94.5% more efficient to comparable buildings.

Features include:
- Solar panels
- Air tight
- Heat recovery ventilation
- Energy efficient appliances

Why look to Germany?
- Mountainous region
- Similar temperatures
- Similar seasons
E+ Green Home- South Korea

Modern concept green home that uses new technologies to achieve maximize efficiency and sustainability.

Features include:
- Solar panels
- Green roofing
- Heat recovery ventilation
- Advanced air filtration
- 95+ advanced green technologies

Why look to South Korea?
- 4 distinct seasons
- Similar temperatures
UM FLAT- Missoula, MT

A retrofitted home that is the base of a living-learning community dedicated to sustainability.

Features include:
- Solar panels
- Hot compost
- Garden
- Chicken Coops

Why look to Missoula?
- This is our backyard!!
- A real life example of what can be done in Montana
Current and Future Activities
Research Application via Website

We wanted the ability to reach a wide group of people all throughout western Montana. After researching, we thought a website would be the best way to accomplish this!
More Research Necessary → Survey

1. Do you own a home or do you rent?
2. Do you currently practice any environmentally sustainable/eco-friendly/high performance/etc. housing techniques (i.e. water/energy efficient appliances, rain barrels, alternative energy sources, composting, etc.)?
   a. If so:
      i. What are they?
      ii. Why?
   b. If not:
      i. Have you considered the idea?
         1. If not, what would you consider are the major barriers?
      ii. Would you be open to the idea if you were provided more information?
What Our Survey Told Us/Applying It to Our Project

Why?
Project Update

- WordPress
  - Content Management System
- Content Delivery Network
- Accelerated Mobile Pages
- Progressive Web App
- HTTPS and SiteLock Secure
Moving Forward

- Better access to information
- How can we better our project?
  - Beta testing/feedback from website users
- Hopefully we give people the information to be more sustainable in Western Montana
- Future of our website?
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Citations


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