WELCOME TO THE BUILDY GREEN OUTREACH TEAM!

You've got my story in your hands to help you spread the word—buildings matter! Buildings take care of us and protect us, but they also use huge amounts of energy and raw materials. How we construct and improve our buildings is critical for our future.

Whether you are an educator, building or materials professional, sustainability advocate, or anyone (of any age!) who cares about keeping people and the Earth healthy, please use my story to celebrate the great work people are doing around the world—and to demand greener buildings near you.

I hope you'll bring me to classrooms, youth group meetings, workshops, and career and sustainability expos and events.

Thanks for all you do for our planet!

Love, BUILDY GREEN

HOW TO USE BUILDY GREEN CLASSROOM SLIDES

1.) Download slides to your own device so you can rearrange or use only what you need!

2.) Choose your presentation approach

- 6 Minutes (story only without the add-on explanations and activities) (Recomended for short time windows or audiences younger than age 8)
- 15-20 minutes story + (explanations OR interative activities) (Recommended for audiences (or mix-and-match)
- 25-30 Minutes full read-through, including interactive questions and all explanations.

3.) Choose follow-up activities

- Explore your building activity (shown on final slides and at www.buildygreen.org) 30-60 minutes
- Print and Play Activities available at www.buildygreen.org
  - Green Building careers “fortune teller”(10 minutes - ages 8+)
  - Make a Mini Green Building (5 minutes - ages 6+)
  - Make a Mini Buildy Green, (10 minutes - ages 9+)
  - Eco Mission: Materials Board Game 20-30 minutes - ages 10+

4.) Don’t forget to share your outreach efforts!

- Fill out the form on our website at the top of the activities page (as a nonprofit this really helps us!
- Post about your outreach on LinkedIn, tag #BuildyGreen

CARBON ZERO YOUTH

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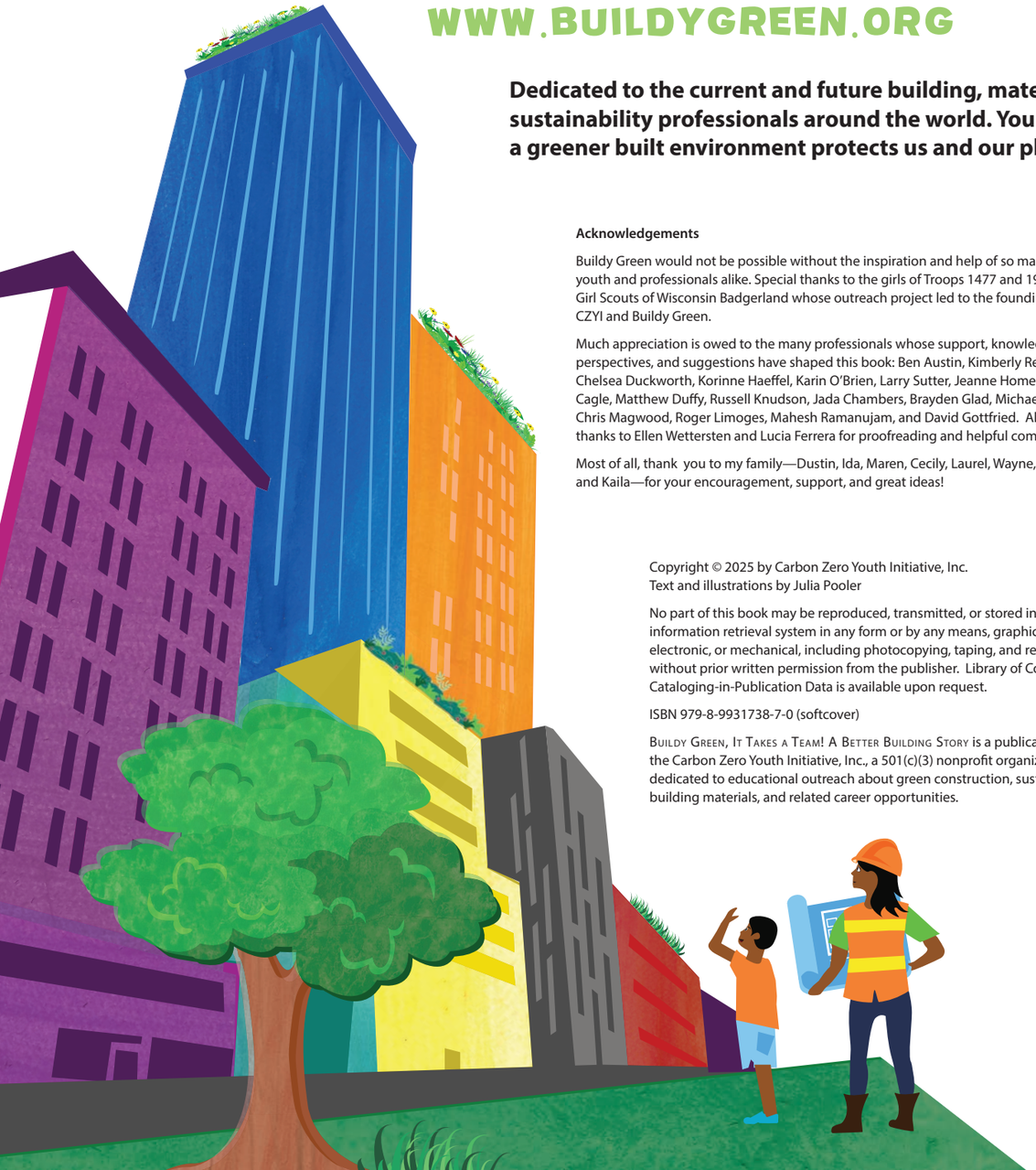
BUILDY GREEN,
IT TAKES A TEAM!
A Better Building Story
BY JULIA POOLER



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Dedicated to the current and future building, materials, and sustainability professionals around the world. Your work towards a greener built environment protects us and our planet!

Acknowledgements

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Kinley W.
Annika W.
Rose A.
Hegna M.
Cecily P.
Calla N.
Claire S.
Fatoumata C.
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Maddie L.
Maya B.
Neva G.
Laurel P.
Jack R.
Sam R.
Troy H.
Mitch H.
Nate S.

BUILDY GREEN,

IT TAKES A TEAM!

A Better Building Story

BY JULIA POOLER

CARBON ZERO YOUTH INITIATIVE

Hi there! My name is Buildy Green.
As a building, I keep you comfy and dry.

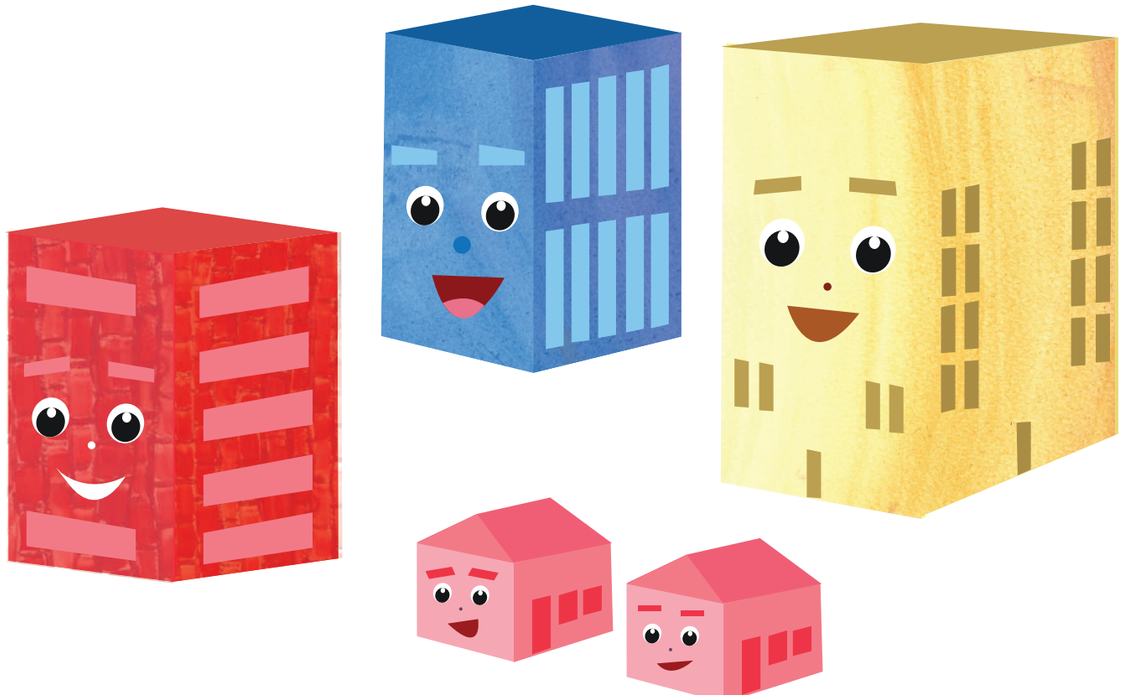
I'm like most buildings you've ever seen,
but I'm special—I'll tell you why!

GREEN BUILDING

I'm built better for people and the Earth;
that's why I'm called Buildy ***Green.***

It's not about my color at all—
I'm built by a caring team!

THINK ABOUT IT!
Which of these buildings do you think could be called "green," or Earth-friendly?



Answer:
All of them! Green buildings usually don't look different from other buildings. Some ways to make buildings green are easy to see, like solar panels or plants on the roof, but you probably won't notice most green building features unless you know what to look for. Plus, even old buildings can be made greener!

We need to take care of our planet, my owners and community knew—

so when they needed space to live and work, they asked,

“What can a building do?”

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Since buildings are BIG, they use a LOT of

materials,

water,

and energy . . .

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So they said,
"For us, our planet, and our future,
let's make our Buildy
the best it can be!"

GOALS FOR BUILDY

- HEALTHY FOR PEOPLE INSIDE
- SAVE MONEY & LAST A LONG TIME
- PROTECT OUR CLIMATE & ECOSYSTEMS
- PREVENT WASTE & SAVE WATER
- MAKE THE ENERGY WE NEED

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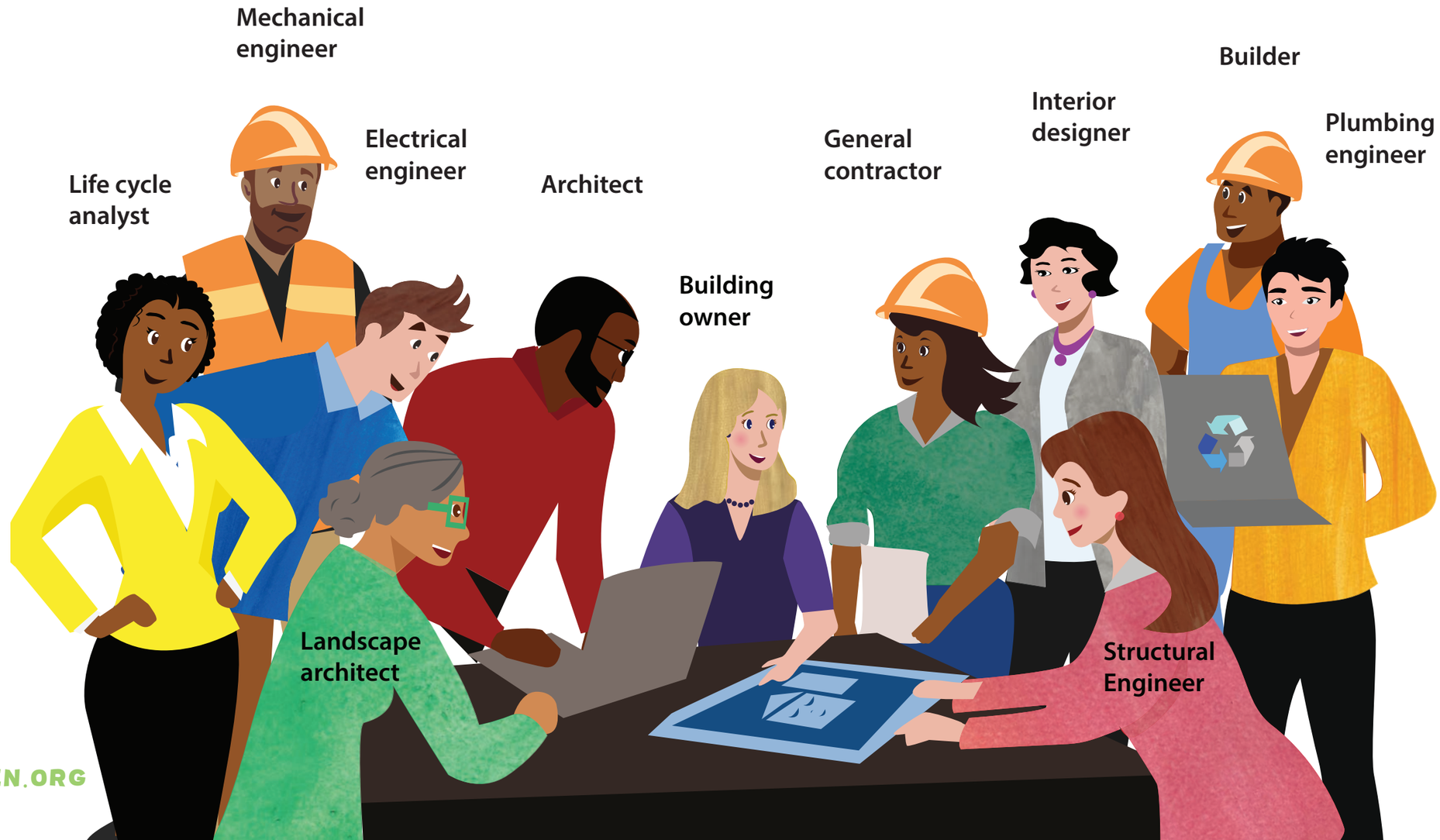
Then my owners, designers, and builders worked together as a team to design and construct me in Earth-friendly ways called green.



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WHO DOES WHAT ON MY BUILDING TEAM?

So many people work together to make me a green building!
Can you find the people shown below on the opposite page?

Building owner
Represents the business or organization that needs new space and sets my green goals.

Electrical engineer
Designs my power and lighting systems and finds ways to reduce my energy needs.

General contractor
Manages my entire construction process and builders.

Architect
Designs my overall look and layout and makes sure I meet all my owner's goals.

Plumbing engineer
Designs my water systems and looks for ways to save and recycle water.

HVAC engineer
Designs my heat, ventilation (air-moving), and air-conditioning systems.

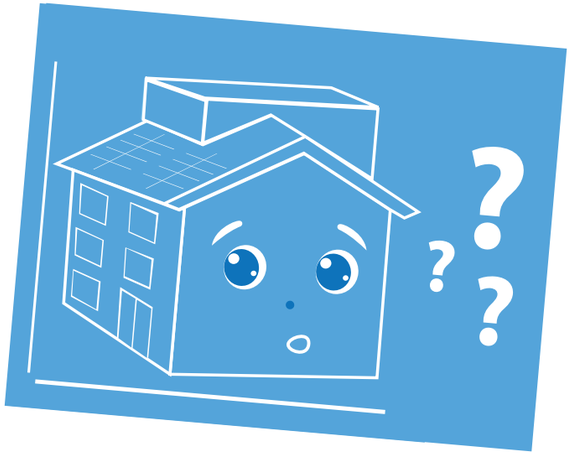
Structural engineer
Figures out how to make my structure (bones) strong and sturdy.

Landscape architect
Designs my outdoor spaces so people can enjoy the world around me.

Interior designer
Designs my inside spaces and selects furniture and decorative materials.

More people on my team:

- A **civil engineer** who plans, designs, and runs the construction process for my building
- A **supply chain specialist** who finds and orders building materials
- **Sustainability consultants and life cycle analysts** who help the team figure out different ways to build green
- **Materials producers** who make building materials needed for construction
- **Builders and construction tradespeople** who do specific jobs for my construction, such as welding, concrete work, installation, and carpentry



My team had important questions . . .

“Is building green harder to do?
Will it cost more money or take longer?”

Everyone wondered what would be true.

THINK ABOUT IT!

There are more costs to building than just the money needed for construction.

Costs to the Earth and people's health

Making materials and powering buildings often uses energy from burning fossil fuels, leading to unhealthy air pollution and causing severe weather worldwide.

Costs for repairs

Severe weather such as strong storms, flooding, and wildfires can damage buildings. Green buildings are made to be **resilient** buildings—that means they can stand strong even in rough weather, reducing future costs for repairs.

“But Buildy will cost less money over time!”
my engineers replied,
“since building green saves water and energy!”

Hearing that helped them decide!

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Building green saves money over time! When teams work together toward their green goals from the start, they can find ways to avoid extra costs.

Big upgrades like solar panels might cost extra at first but reduce energy and water costs.

Green buildings are also designed to be resilient, so they need fewer repairs after bad storms.

HOW DOES IT ADD UP?

Can you count the dollar signs for each building?

How many dollar signs for construction of regular (yellow) and green buildings (orange)?

How many dollars signs for each building for energy and water and repairs over time?

Which kind of building has the highest cost (most dollar signs) in total over time?

		Cost of construction	Cost of energy and water over time	Cost for repairs and replacements
Regular building		$ $ $ $	$ $ $	$ $
Green building		$ $ $ $ $	$	$

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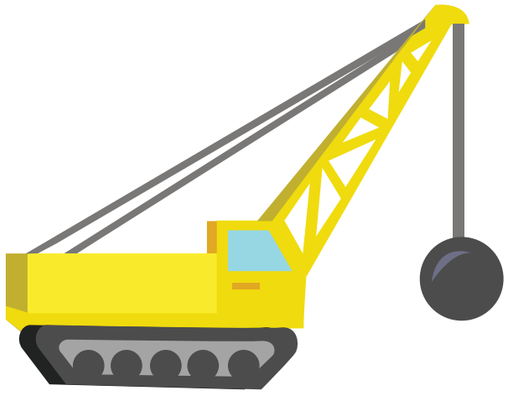
First, they found a perfect place by a bus stop, right downtown.

"But there are old broken buildings there . . .



Should we just knock them down?"

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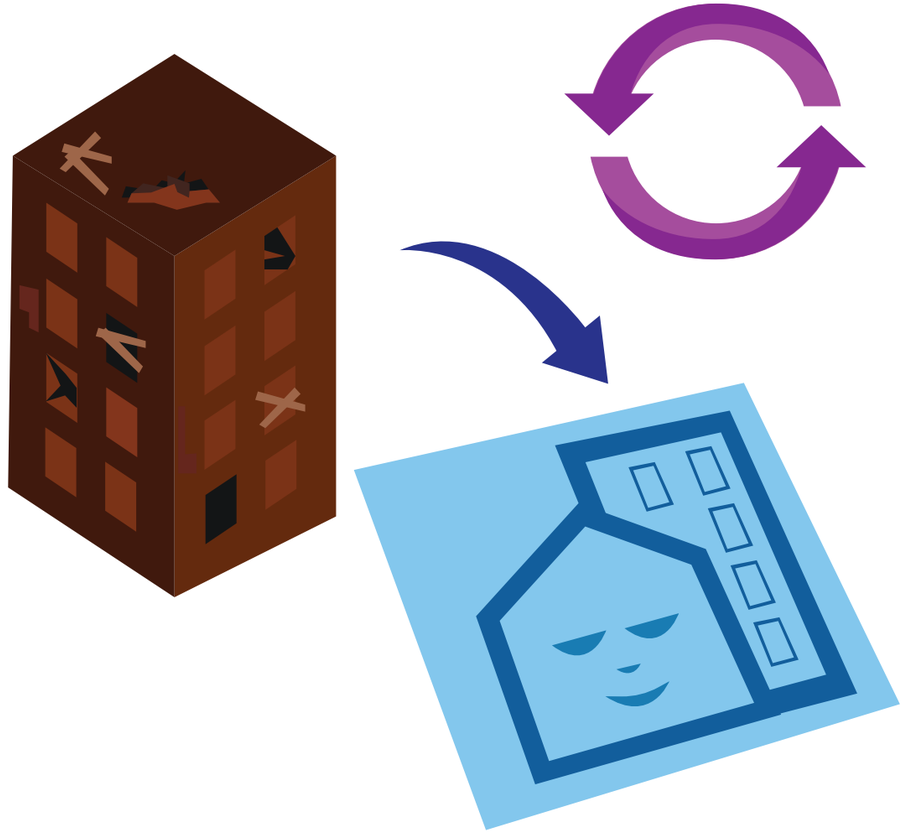
THINK ABOUT IT!

A building's location is important. If it is easy for people to walk, bike, or take the bus or subway, that saves energy. When shops and other important places are nearby, people have fewer trips for errands.

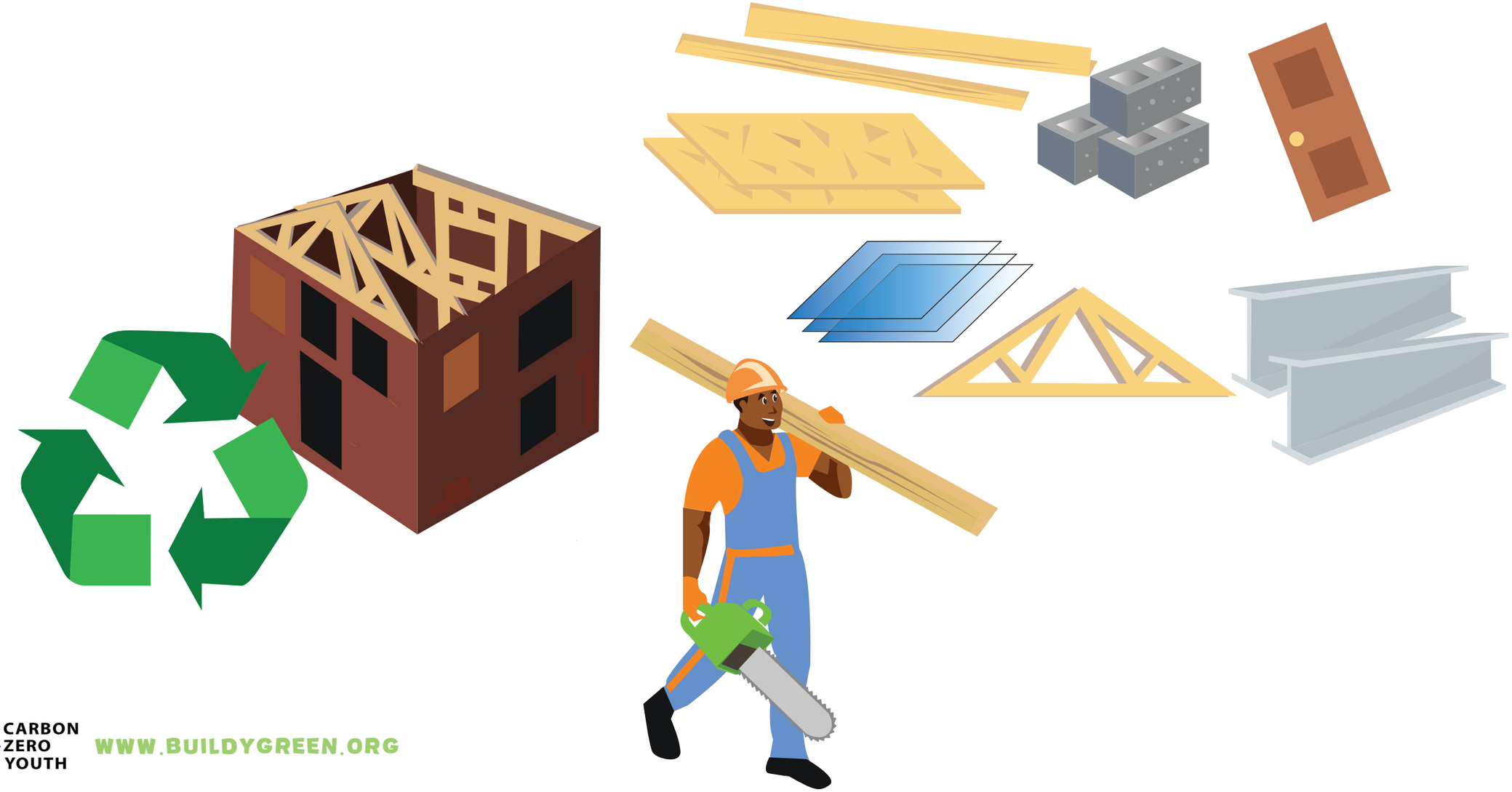
NO! That would make a lot of waste!



We can reuse one building in our design.

We can deconstruct (take apart) the other building.

Save the materials—they're still fine!



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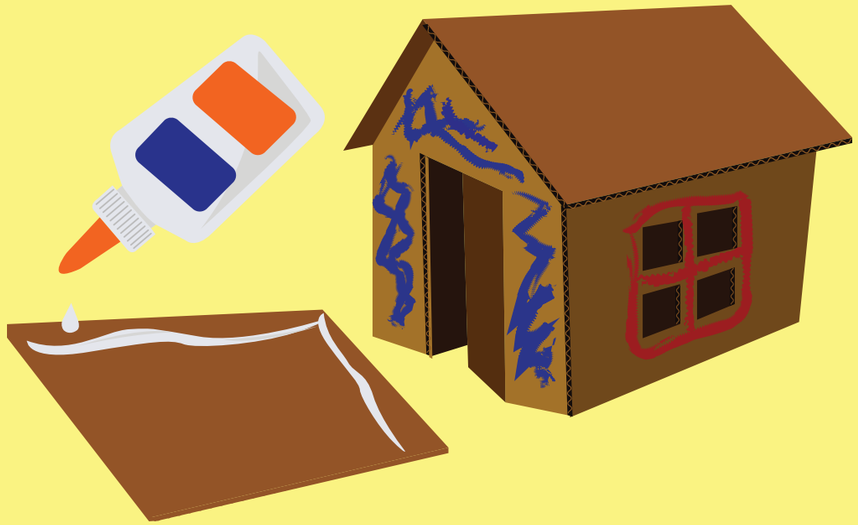
THINK ABOUT IT!

Have you ever played with blocks to build a tower or building?
What if you had to throw away your blocks after making just one tower?

Building professionals can use **deconstruction**, taking apart buildings instead of knocking them down, to reuse materials. They can also design to make it easier to add to the building, change the inside layout, or eventually take it apart, if needed. Some building materials fit together in special ways so they can be moved or reused.



Which type of toy house is easier to take apart and reuse the materials?

My architects thought about
sun, wind, and land
and chose my shape carefully.

“As we design,
we’ll look for lots of ways
to save materials and energy!”

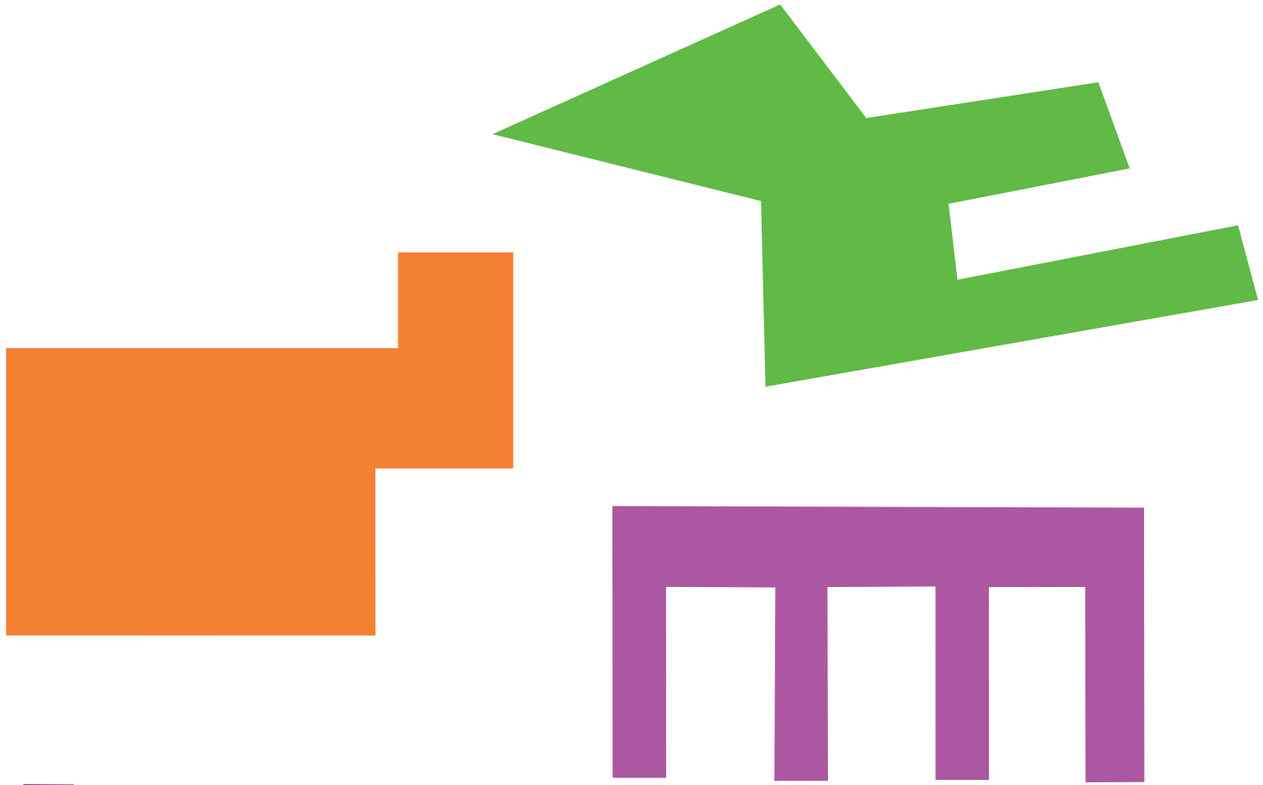
IMPORTANT QUESTIONS . . .

When architects design buildings, they ask many questions, such as

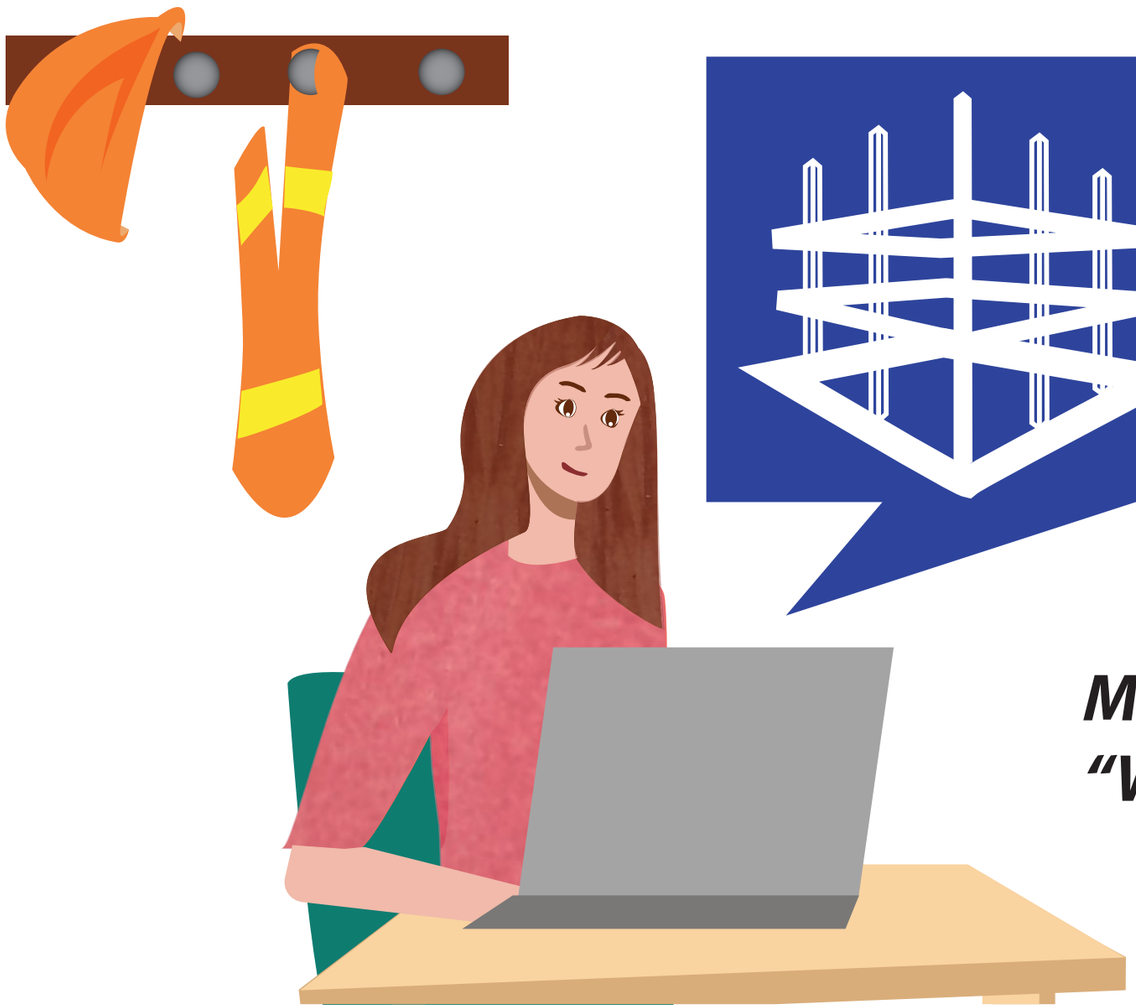
- How big does the building need to be, and what direction should it face?
- How can the building use wind, sunlight, and shade to help with heating, cooling, lighting, and fresh air?
- How do different shapes and building materials affect a building's energy use?
- How can we make the building to help keep the people inside healthy and comfortable?
- How can we plan for the building to be adapted or made bigger later if needed?

THINK ABOUT IT!

Which building shape do you think is the most efficient (wastes less material and is easiest to heat and cool)?



Answer: Simple shapes like the orange one help reduce waste in construction materials, and they are easier to heat and cool. However, narrower shapes like the purple one can have lots of windows for daylight, so they need less electric lighting.

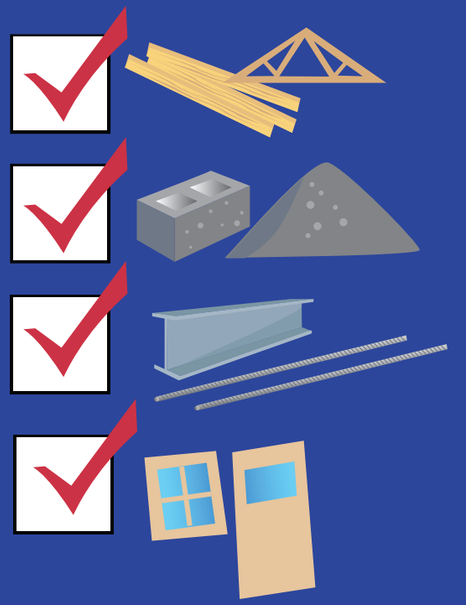


My structural engineers said,
“We’ll look at and compare

how different materials are made and moved
and how they affect the earth and air.”

Life cycle analysts gather, check, and present information about how things are made so engineers, architects, and supply chain managers can choose the best materials for their project and the environment.

Supply chain managers find and order the materials needed for a building project. They can look for special labels or reports called **environmental product declarations (EPDs)** that show how materials affect the Earth.



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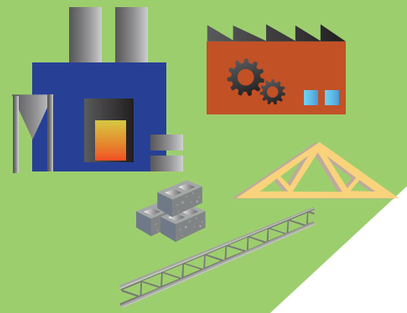
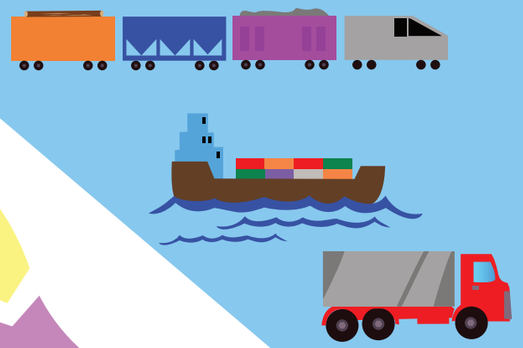
STEP 1
Extraction or harvesting
Where do the materials come from and how are they taken from the Earth?

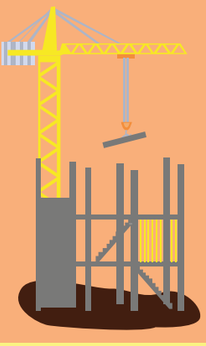
STEP 2
Processing / manufacturing
How much energy is needed to make the material? How much greenhouse gas is released while it is made?

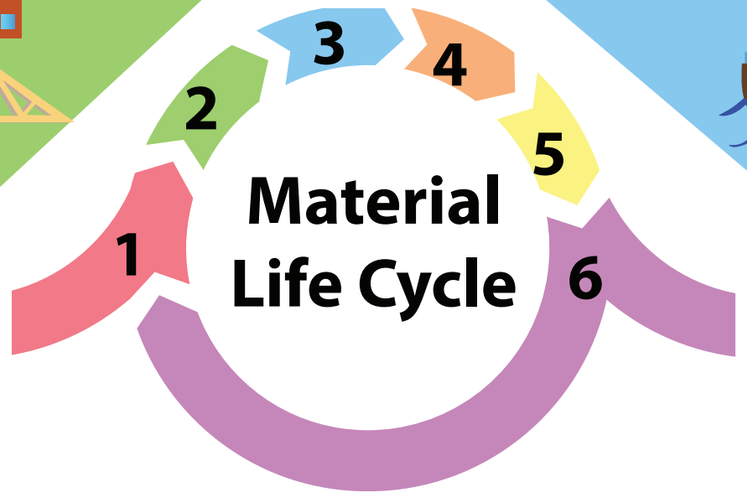


STEP 3
Transportation
How far does the material have to be moved? Does it come by train? Boat? Truck?

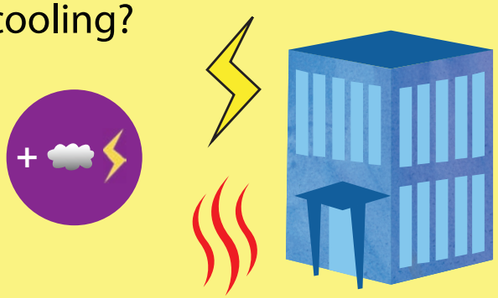


STEP 4
Construction
How much might get wasted? How much energy does it need to be put together?





STEP 5
Building in use
How often do the materials hav be repaired or replaced? How c they affect the amount of ener the building needs for heating cooling?



STEP 6
What happens next?
Building materials last a long time, but eventually they have to be repaired or replaced. Can they be recycled or reused? Or will they become waste?

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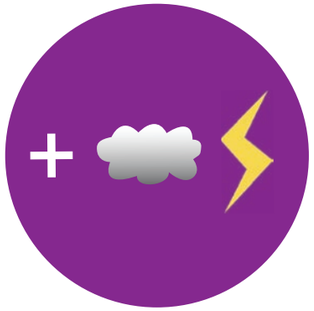
THINK ABOUT IT!

What makes a building material better for the Earth?

It's complicated! We can use **life cycle assessment**, the process of looking at each step of a building's whole life from beginning to end, to figure out which building materials are the best for each project.

What are those circles with energy symbols and clouds about?

Every step of making and moving things needs energy. Since much of our energy still comes from burning fuels, that sends carbon into the air, causing climate change.



The total carbon emissions related to making building materials (or whole buildings) is called **embodied carbon** or **upfront carbon**.

The greenhouse gases caused when a building uses energy for lighting, heating, and cooling is called **operational carbon**.

Concrete stays tough in really bad weather— it's very hard and strong.

We can use Earth-friendly mixes that last for really long.

Durable materials that last a long time and are resilient (stay strong in bad weather) can help buildings be green since they don't have to be replaced as often, preventing waste.

Materials scientists develop better materials that can save energy while they are made, prevent and recycle waste, and keep our water, land, and air clean.

Materials engineers make concrete by carefully mixing rocks, sand, water, and cement (the glue) with special ingredients and technologies to make it better for our planet!

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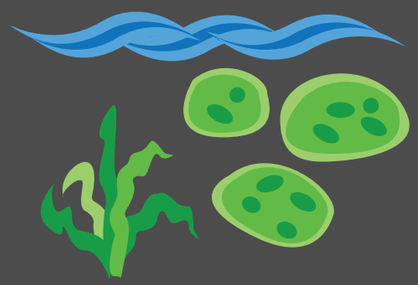
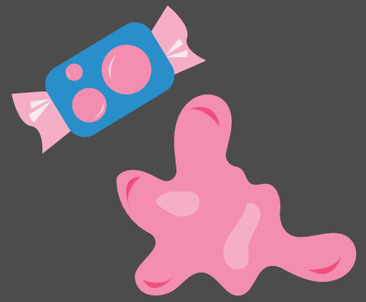
COOL TECH!

Researchers have found lots of new ways to make concrete. Can you guess which of these can help make concrete better for the Earth?

Leftovers from melting metal (slag)



Algae



Bubble gum

Recycled glass dust

Clay

Fizzy soda bubbles
(carbon dioxide)

Answer: All except bubble gum! There are lots of different ways to make concrete low-carbon that send fewer greenhouse gases into the air. Different technologies can also make concrete extra strong so builders can use less.

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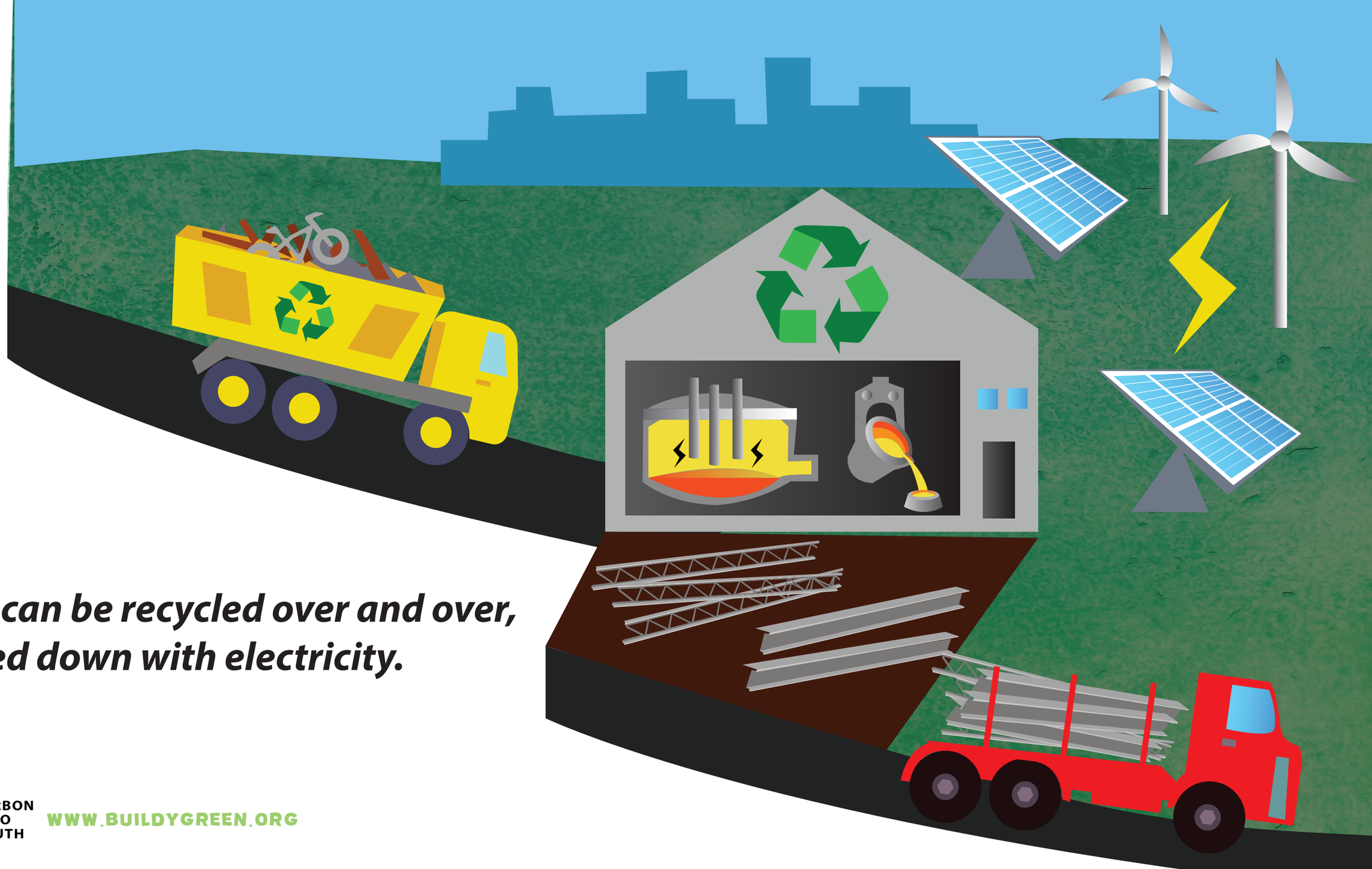

Steel can be recycled over and over, melted down with electricity.

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We can turn scrap metal into strong new beams and choose steel made with clean energy.

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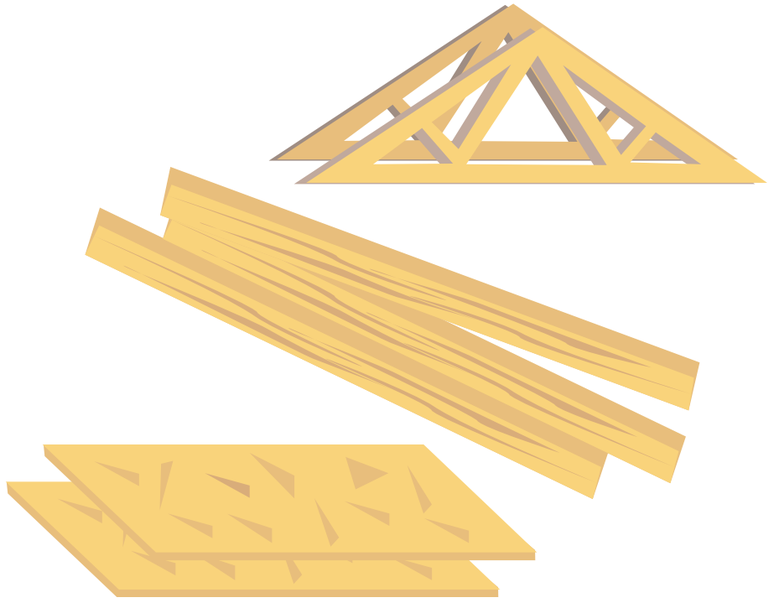
COOL TECH!

Steel producers can make green steel by melting metals in electric furnaces powered by renewable energy, such as solar panels or wind turbines. This saves lots of greenhouse gases from being released into the air.

Engineers and **architects** can specify, or describe, exactly what kinds of materials should be used in a building project, such as materials that are recycled or produced with lower greenhouse gas emissions.

Wood is a natural material;
as it grows, it helps Earth's air.

We can choose wood from
forests nearby
that is harvested with care.



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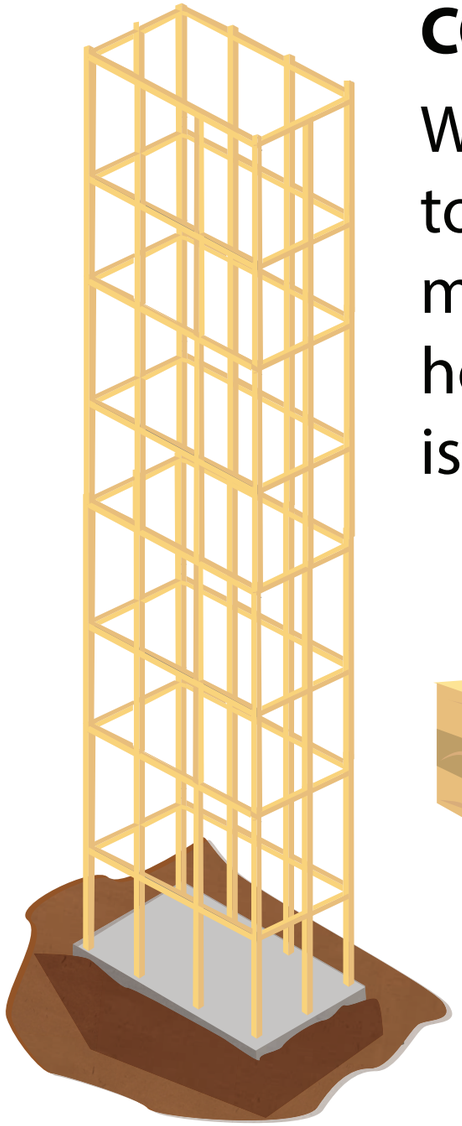
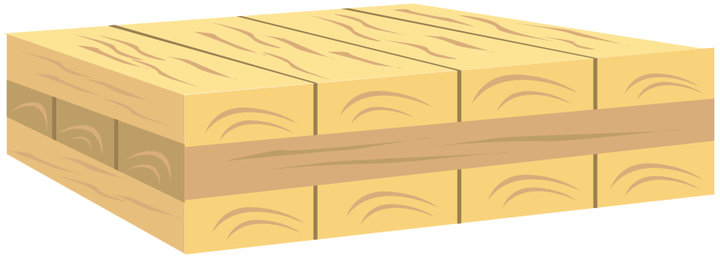


COOL TECH!

Wood can be layered together in special ways to make it strong enough to hold up skyscrapers! This is called **mass timber.**



As a **forester**, I help take care of forests. Sustainably harvesting timber (wood) can help keep forests healthy. It reduces the risk of wildfires and gives small trees room to grow—if we do it carefully, take only some trees at a time, replant, and protect the soil.

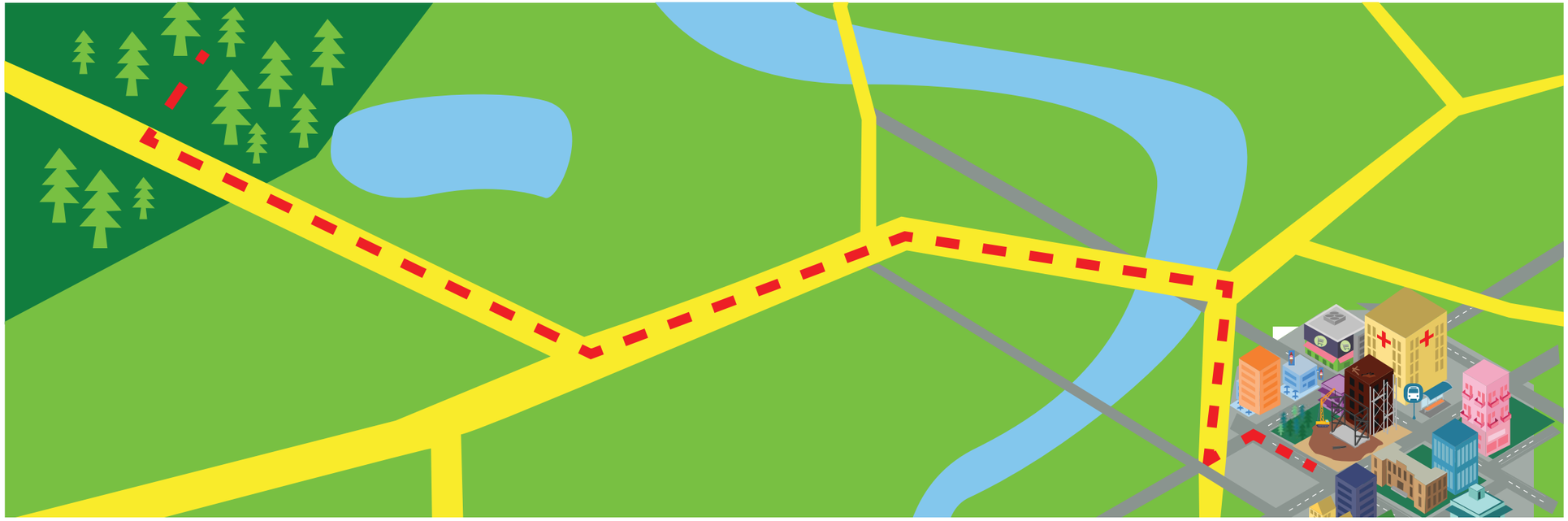
FIGURE IT OUT!

How far away is the forest that my wood came from?

Is my wood "local"?

Use the 10-mile measuring bar to see!

Hint: It's local if it is from less than 100 miles away.



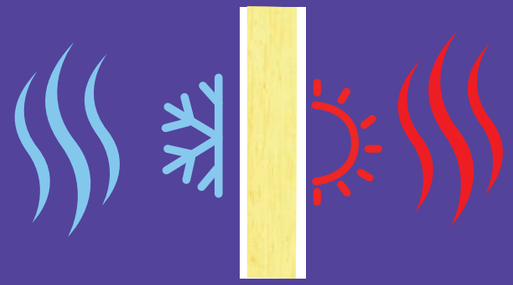
Answer: Yes, my wood is considered local since it comes from less than 100 miles (160 km) away.

To help me stay
warm or cool,
they gave me
a jacket of fluff.

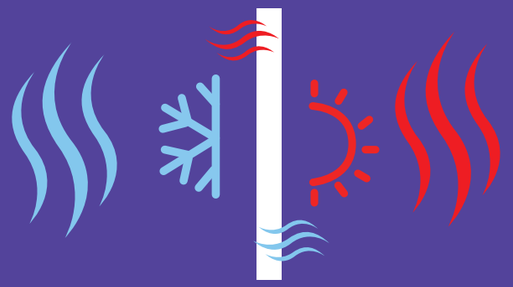
Inside my walls,
insulation it's called—
mine comes from
plant-made stuff!

THINK ABOUT IT!

If people only need jackets when it is cold outside, why do buildings need insulation in places that are hot all the time?



Insulated
(Heat and cold stay where they are)



Not insulated
(Heat and cold leak through)

Insulation is about keeping hot and cold apart. People are already warm, so we wear fluffy jackets to keep our warmth in and the cold out.

In hot weather, a building's insulation works like a cooler that keeps drinks cold, keeping the cool air in and the hot air out.

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Farmer

Using quick-growing materials like straw, hemp, grass, and bamboo as building materials can help the Earth since these plants soak up carbon pollution from the air as they grow. The materials then **sequester** (lock away) that carbon for a long time inside the building so it doesn't affect our planet.

While building me, my contractors kept the land around me clean.

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They reduced and recycled waste and used clean-powered machines.*

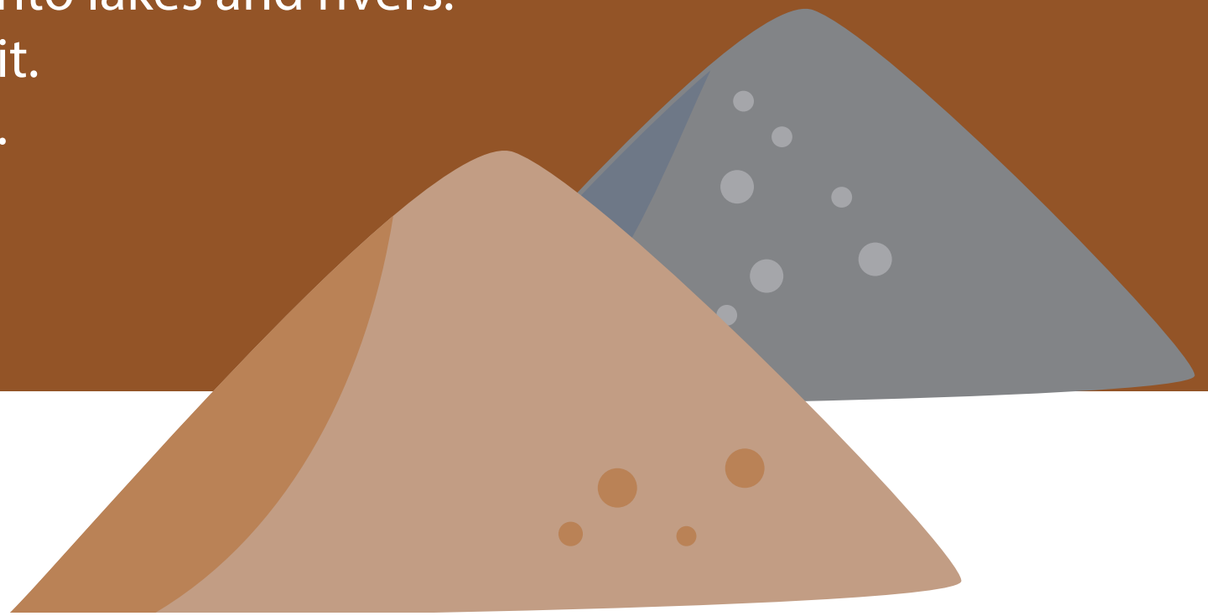
*Equipment that uses clean energy sources, such as electricity, hydrogen, or biofuels

DIRT CONTROL!

Construction sites have lots of dirt, so they often have barriers to keep the dirt in.

Why do you think construction sites have to be careful about their dirt?

A.) When it rains, the dirt can wash away (erode) into lakes and rivers.
B.) The dirt might spill over into the areas next to it.
C.) The dirt might have garbage or chemicals in it.
D.) All of the above

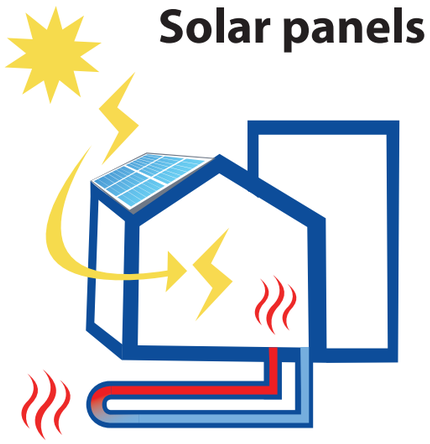


Answer: D. All of the above

My team decided, "Let's make Buildy net zero!" Buildings can make their own energy.

GOAL: NET ZERO!

ENERGY MADE = **ENERGY USED**

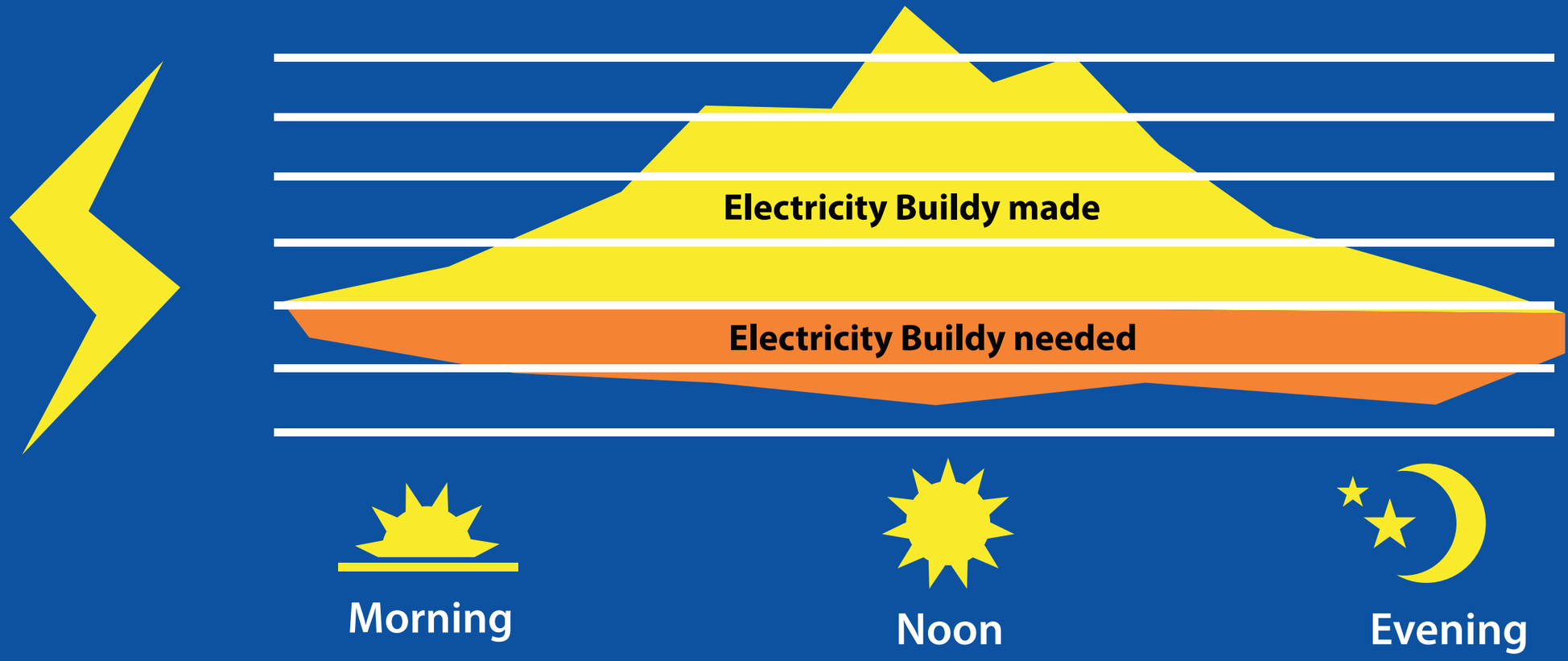


A **net zero** building makes as much energy as it needs overall. Sometimes Buildy might not make enough energy on its own. Then it can get some from the local power company. Other times, Buildy will make more energy than it needs and save it for later or share it with other buildings!

Solar panels on the roof can generate Buildy's electricity!

THINK ABOUT IT!

Today did I make or use more electricity overall? *Hint: Is there more overall yellow or orange?*
Why do you think I made more energy in the middle of the day?



Answer: I made more electricity than I needed, so I can store it using an **energy storage system** or share it with other buildings. I made more energy during the middle of the day because that is when the sun is highest, so my solar panels can collect the most sunlight.

For more energy,
they dug pipes underground
to use Earth's temperature
as an energy tool.

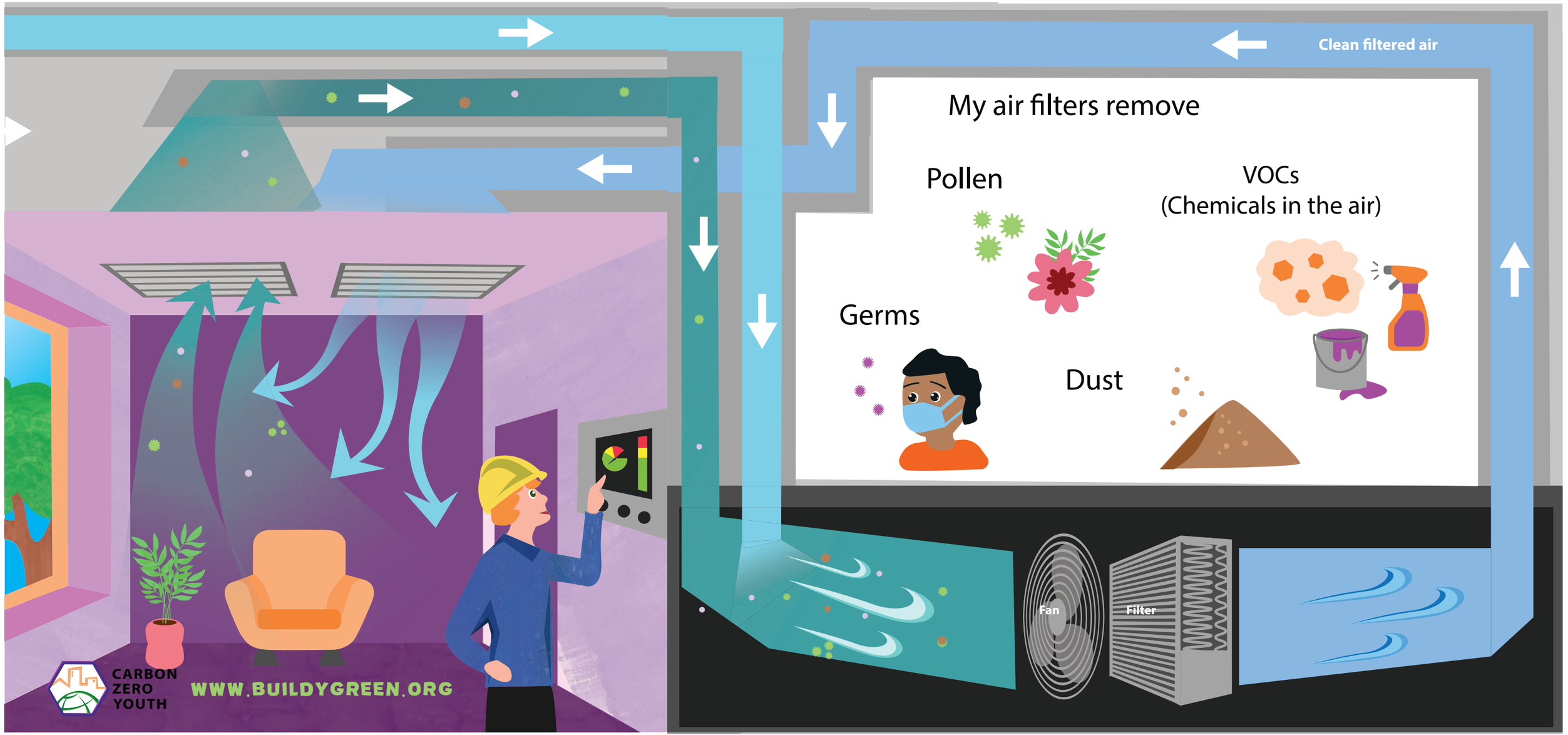
My HVAC* team installed
tubes and machines
to keep my air warm and cool.

*HVAC=Heating, Ventilation (air moving), and Air Conditioning

Since the ground doesn't change temperature like air does, it can help Buildy stay warmer in winter and cooler in summer. By pumping water through special pipes in the ground, Buildy can use **geothermal energy** to reduce the need for heating and air conditioning.

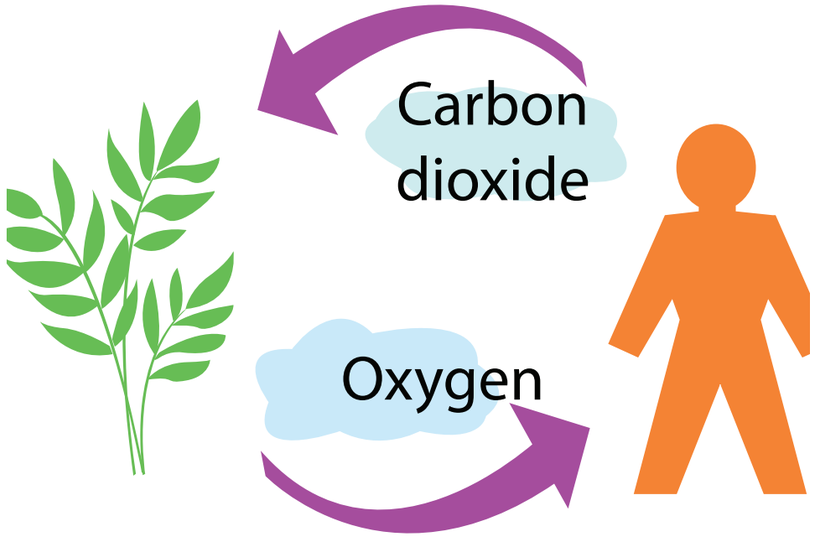
My HVAC equipment also cleans my air, filtering dust, germs, and chemical fumes.

They used a smart system to help my facilities manager check my rooms.



COOL TECH!

People produce carbon dioxide by breathing. When there is too much in the air, smart sensors can tell when to bring in fresh outside air.



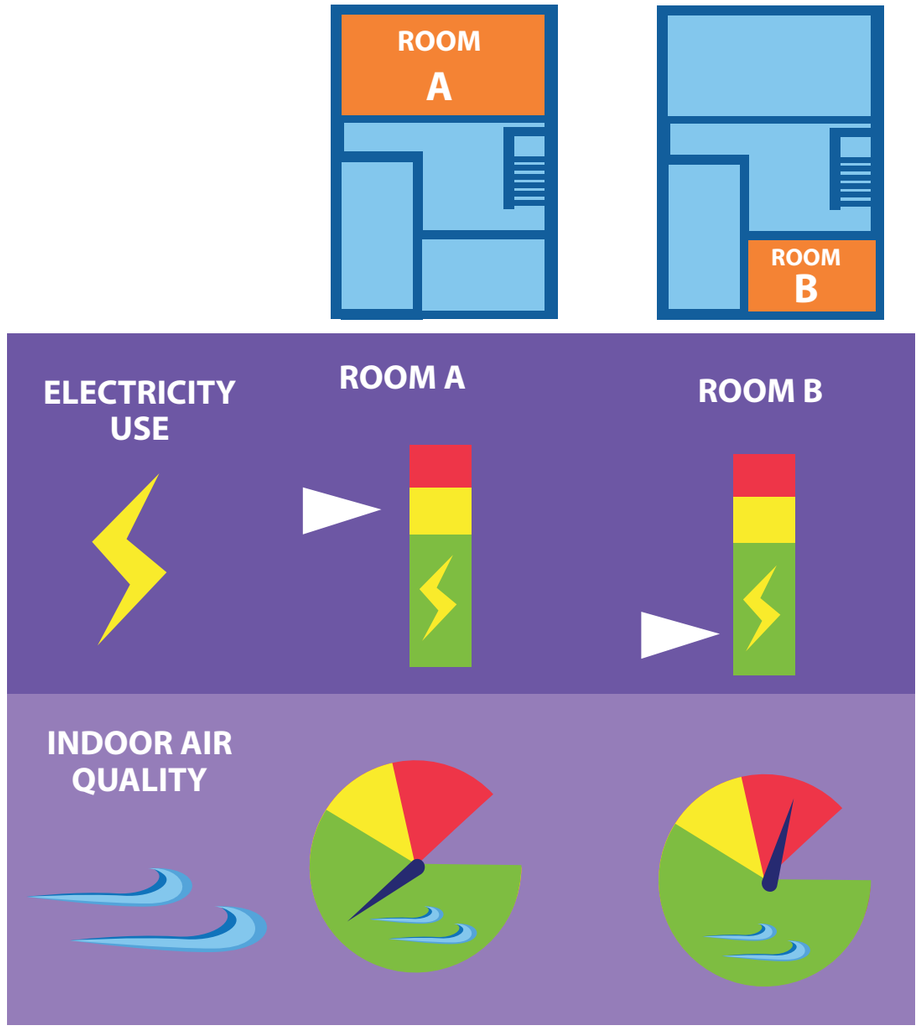
When I am complete and operating, my **facilities manager** uses my smart system to watch my energy and water use, temperature, and indoor air quality for each room and fix problems quickly.

FIGURE IT OUT!

Using the graphs on the right, can you tell if either of these rooms is using too much energy or needs more air filtering?

Hint: Green is normal, yellow means a problem might be starting, and red means something needs to be fixed. White arrows show the electricity use, and the needles show the air quality.

Answer: Room A's energy use is a little high; the facilities manager might want to check it out. The indoor air quality in Room B is poor and needs more filtering or fresh outside air brought in.



My engineers designed my water systems;
I can recycle greywater and use rain.
Water also helps me stay cool and warm,
so let's not waste it down the drain!

Greywater

Cleaned city water

Rainwater

Blackwater

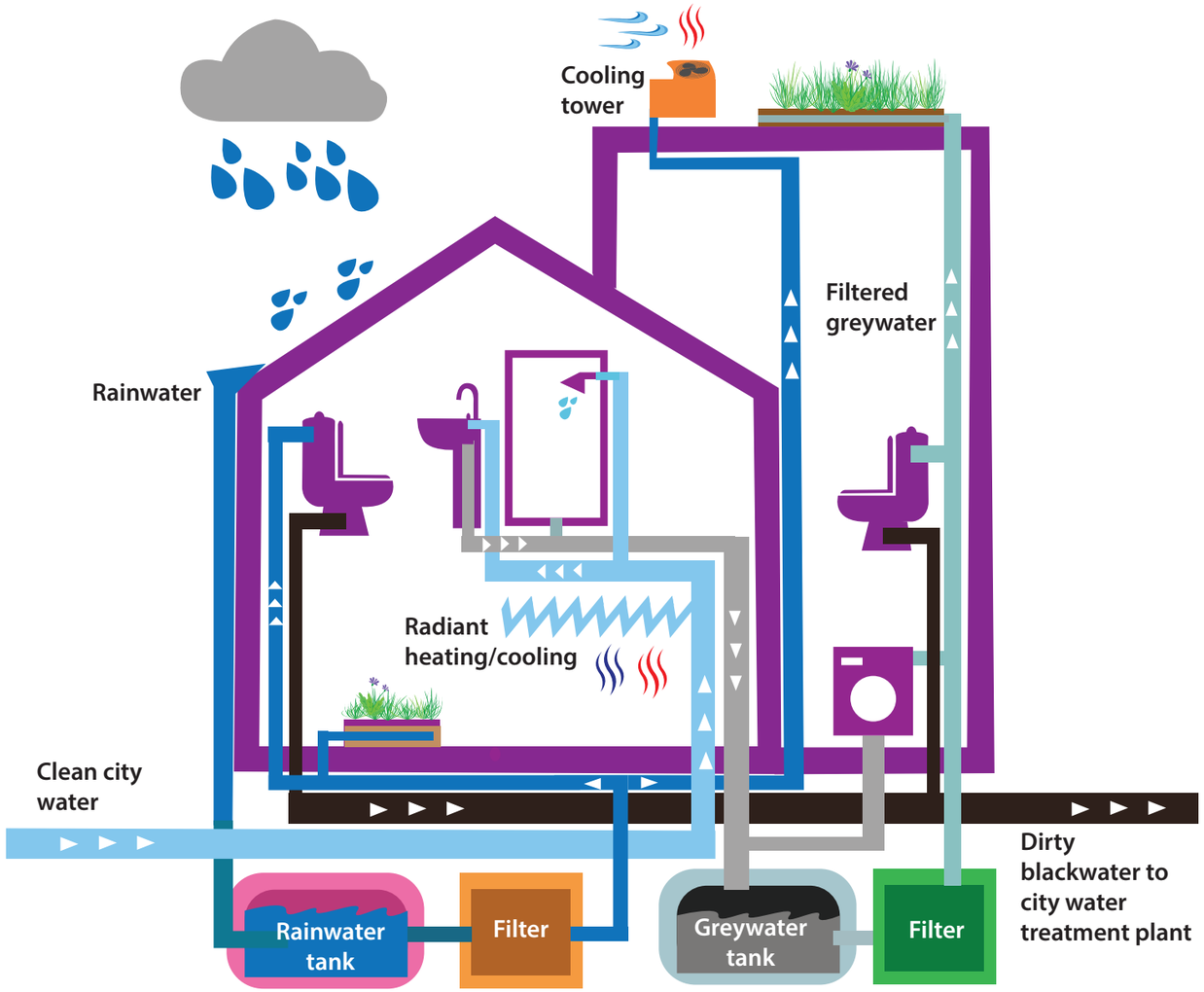
FIGURE IT OUT!

Looking at the picture on the right, can you tell...

What is water rinsed down the sink called?

What kinds of water can be used to flush toilets or water plants? *Hint: Find which tanks the water comes from.*

Answer: Water going down the showers and sinks is called greywater, and like rainwater, it can be reused to flush toilets or water plants. Water going down toilets is called blackwater.



CARBON ZERO YOUTH

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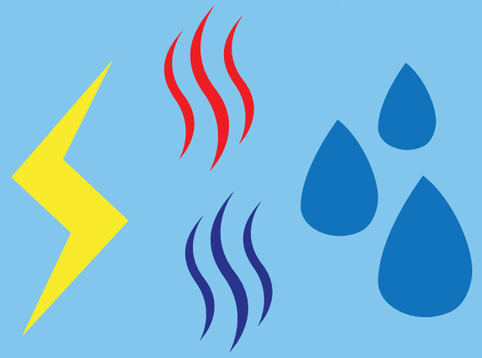
Energy and water: What is the connection?

Heating and cooling water takes energy, which is partly why it is important not to waste water. But pumping hot or chilled water through special pipes throughout the building (called radiant systems) can save lots of energy! That's because water holds the temperature better than air. Water is also used in cooling towers, which evaporate water to let off a building's extra heat. **Mechanical, plumbing, and HVAC engineers** can work together to design water and energy saving systems.



On the flat part of my roof,
my team saw a special
chance—

to save energy, catch
rainwater,
make a pretty space—
add plants!

CARBON
ZERO
YOUTH

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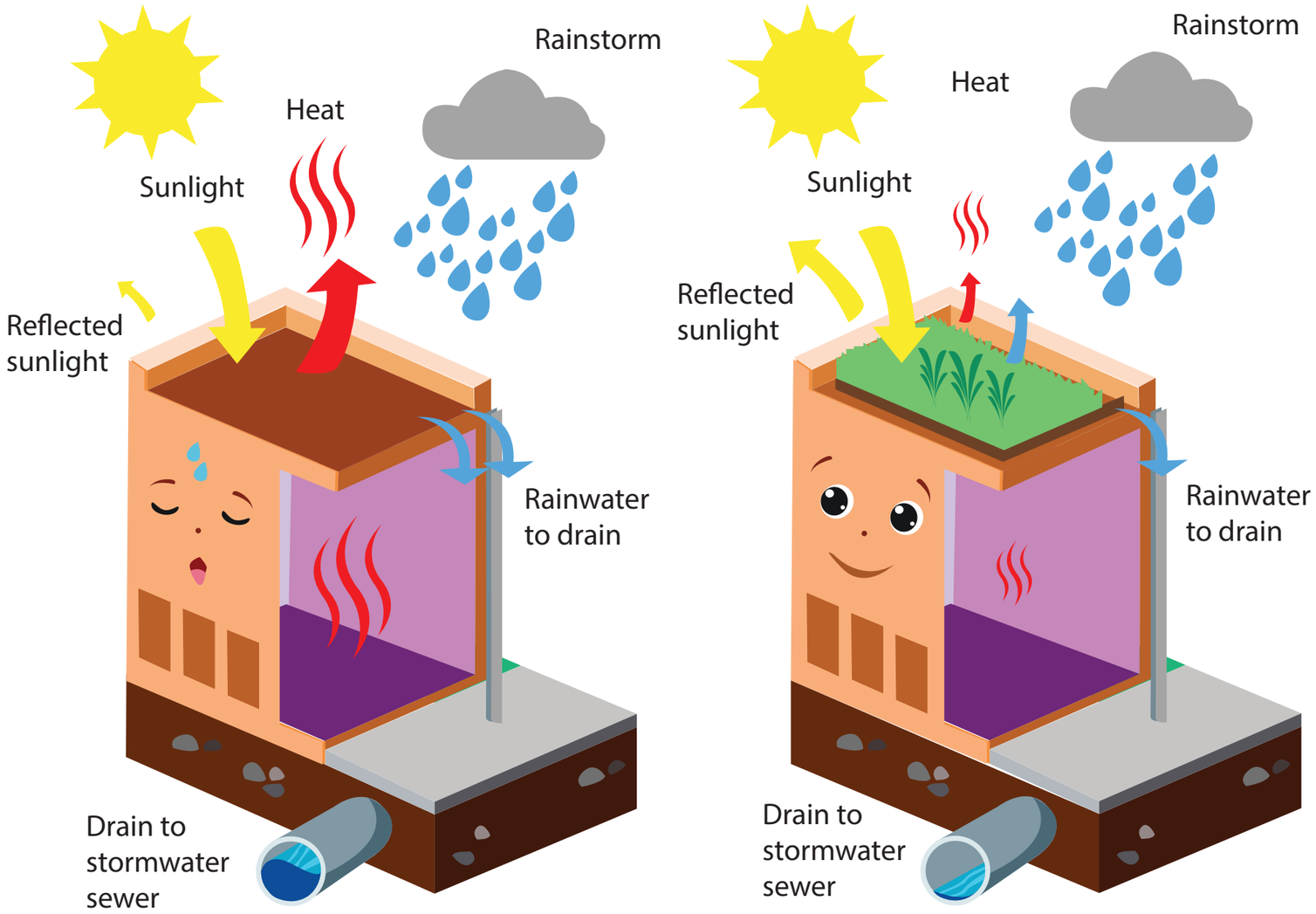
HOW DOES IT WORK?

Green roofs (covered with plants) affect a building's energy and water use and help the buildings around it—but how?

Which building is cooler inside on a sunny day?

Which building makes the air above it hotter?

Which building sends more water into the sewer after a big rainstorm?



Answer: A building with a green roof soaks up the sunlight and heat so it stays cooler on a sunny day and doesn't send so much heat into the areas above and around it. A building with a dark-colored roof with no plants sends lots of heat into the air around it, adding to **heat island effect,** which means that temperatures are hotter around buildings and cities. Green roofs also capture rainwater, sending less water into the sewer and helping to prevent flooding during big rainstorms.

My interior designers chose furniture, wall coverings, and floors.

They picked natural and recycled materials, long-lasting fabrics, and reclaimed doors.

Reclaimed means something old has been fixed up and made usable again instead of becoming trash.

Reclaimed materials and furniture are an example of **circularity**, the idea that things no longer useful are important resources to be reused and recycled.

WHAT FLOORING WOULD YOU CHOOSE? *(These can all be green choices!)*

Interior designers have many choices for Earth-friendly materials.

They can look for products with special labels and certifications to choose ones that are better for the Earth.

They can compare

- Where the materials came from
- How much energy is needed to make them
- Chemicals used
- How they affect indoor air quality
- Durability (how long they will last)

Reclaimed hardwood flooring

- Comes from a deconstructed building
- Avoids use of new raw material
- Natural material

Recycled carpet tiles

- Produced with renewable energy
- Easy to maintain and replace
- Many colors and designs

Polished low-carbon concrete

- Lasts a long time
- Easy to maintain
- Many colors and styles

Bamboo

- Fast-growing, natural material
- Stores carbon from the air as it grows
- Can be grown locally in many climates

Finally, they did my landscaping;
my outside areas matter too!

They chose plants
that don't need watering
and gave me pathways
that rain soaks through!

WHAT IS THE EFFECT?

Landscape architects have many ways to design outside areas to save energy, reduce flooding, and provide wildlife habitats. Can you match the action with what it does? The first one has been done as an example.

Hint: Some choices do more than one thing!

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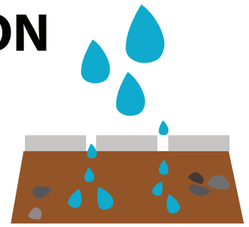
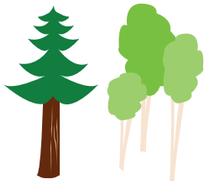
LANDSCAPE ACTION

Make walkways that rain can soak through

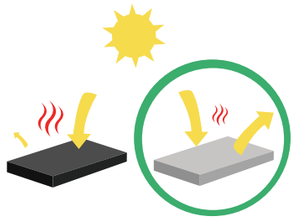


Have ponds

Plant shade trees



Use light-colored surfaces that reflect sunlight



Use native plants with long roots

HOW IT HELPS

Keeps the area cool

Creates habitats for wildlife

Prevents flooding

Answers: Ponds catch and hold rainwater, preventing flooding, while creating habitats for wildlife. Shade trees help keep the area cool and create habitats. Light-colored surfaces help keep the area cool. Native plants with long roots help prevent flooding by capturing rainwater and provide wildlife habitats.

GREEN BUILDING

Now I'm complete; I wear a special sign that says I'm green for all to see . . .

to celebrate how I help the Earth and show how proud they are of me!

CARBON ZERO YOUTH

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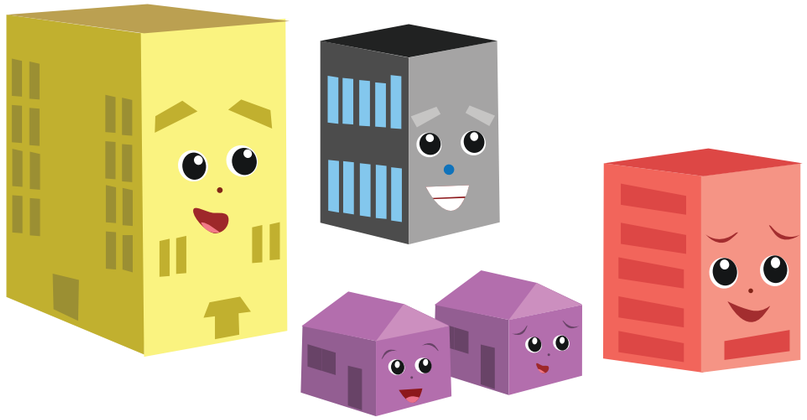
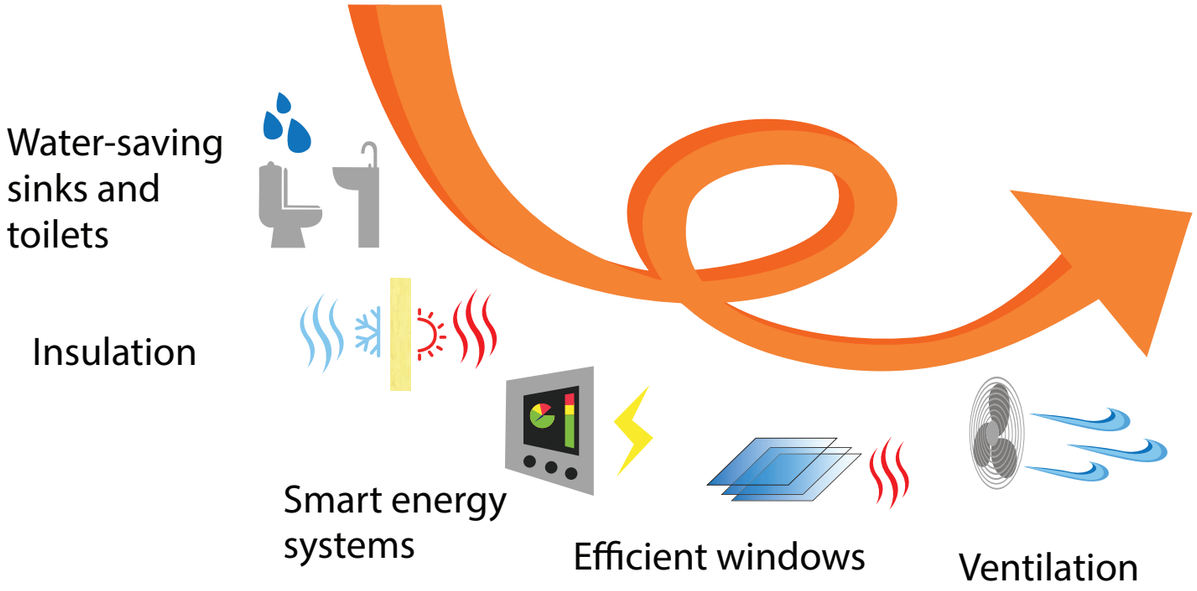
Green buildings can get **certified**, meaning they have passed special tests to prove all the ways they are green. People can help any building be more green, but a building that has been certified shows that lots of people worked together to make the building much better in a lot of different ways.

Now my building friends all ask,
"Can we be made green too?"

"Yes," I say. "You can be improved!
We need green buildings, old and new!"





GREEN BUILDING

CARBON ZERO YOUTH

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To **retrofit** means to improve an existing building through steps such as adding smart energy systems, insulation, water-saving toilets, and windows that help a building stay warm or cool. Facilities managers can help figure out the best ways to retrofit a building.

For buildings like us around the world, please help us share our dream—

GREEN BUILDING

All buildings will be better because people care and work as a team!

I hope you enjoyed my story!

Now you can get to know your own building!

Making buildings better starts with knowing how they are built and how they work. With the help of an adult, see if you can find out the answers to these questions for a building where you live, learn, or play.

Materials and Design

What kind of roof do you have? Sloped? Flat? Metal? Shingles? Tile? Planted? Concrete with a waterproof covering? Covered with rocks (a built-up roof system)? Something else?

What materials are on the outside of your building? Are your building's exterior (outside) walls made of concrete, brick, stone, or something else? Or does your building use wood, metal, vinyl, or another material for siding?

What are your walls made of? Are your walls one solid material all the way through, or do they have different layers? If they have layers, what is the structural material inside? Do your walls have insulation? Are they covered with drywall (also called plasterboard or wallboard) or wood that is painted or decorated? To find out what is inside your walls, see if your building has an unfinished space such as a utility room or garage where you can look.

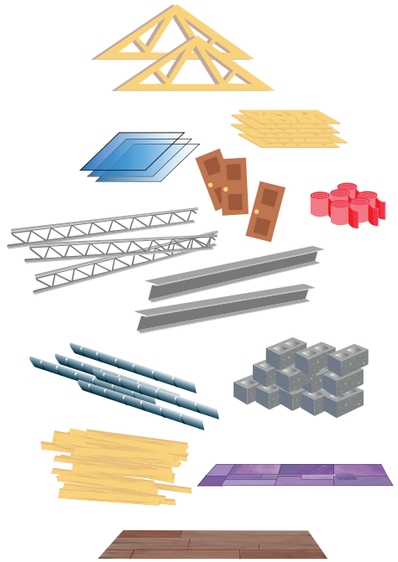
What are your floors made of? Is the material durable? Is it easy to repair or replace in small sections if needed?

What side of your building has the most windows? What direction do those windows face? Do any rooms get enough sunlight through windows that you don't need to use electrical lighting during the day?

CAUTION: Make sure to always have a responsible adult with you when exploring your building. Don't enter utility spaces alone, and don't touch electrical, plumbing, or HVAC equipment!

HVAC, electrical, and plumbing systems often use a lot of energy and can be dangerous to be near without proper training. That is why they are usually placed in out-of-the-way areas such as basements, rooftops, utility rooms, or even separate utility spaces between different floors.

If the building you are exploring is large, talk with the building's facility manager or maintenance professional about the building's systems and find out what you can safely see.



Electricity

Does your building generate any of its own electricity?

Where does electricity enter your house? Does it come from a local power company? If so, find out how that company generates electricity. Is any of it from renewable energy sources like wind or solar?

Does your building have an electrical meter that shows how much electricity it is using?

Where is your building's electrical access panel? If the adult with you is allowed to open the electrical access panel, what do you see inside? CAUTION! Do not touch electrical equipment!

Ventilation, Heating, and Cooling

How does your building get fresh air? Does air enter passively (on its own through openings in walls or through windows), or does it use a mechanical HVAC system with fans to pull air in? Or a mix of both?

Does your building have a central air system (tubes throughout the building for moving air)? Can you find vents where air is brought in and out of individual rooms?

How is your building heated and cooled? If the building is heated, does it burn fuel or use electricity to heat air or water? Does it use geothermal energy? If you have air conditioning, do you have one big machine for all the rooms or separate, small air conditioners? Or does your building rely on sun and wind for passive heating and cooling? CAUTION: Do not touch HVAC equipment!

Does your building have a smart system? A smart system is a computer system for a building that measures and uses data about temperature, humidity, air quality, and energy use to help the building operate better. If your building has a smart system, what can it do?

Water

How does your building get water? Does it come from a city or municipal water source, or does it use well water or a nearby water source? Does your building have its own water filtering system?

Does your building catch and use rainwater or recycle greywater? If so, what is the rainwater or greywater used for?

Does your building have dual flush toilets? A dual flush toilet has two flush options so people can adjust how much water to use.

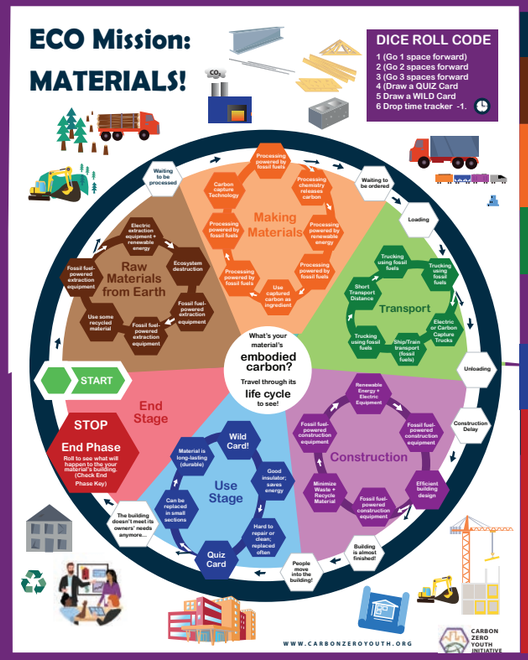
BUILDY GREEN

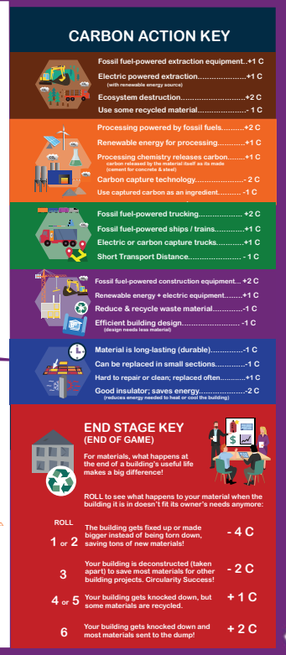
OUTREACH TOOLS FOR BETTER BUILDINGS

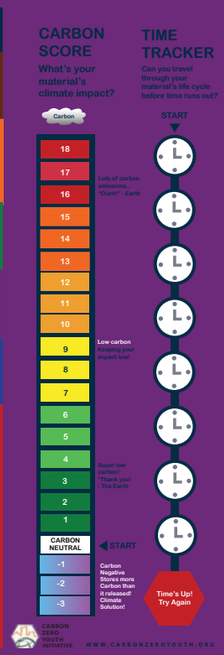
Educate and inspire at expos, events, meetings, and in classrooms and programs!

CARBON ZERO YOUTH INITIATIVE

Go to WWW.BUILDYGREEN.ORG to download print-and-play activities such as "Make a Mini Buildy Green," the "How Will You Make Better Buildings" careers fortune teller, and the "Eco Mission: Materials!" life cycle board game







The Story Behind Buildy Green

Buildy Green and the Carbon Zero Youth Initiative were born out of a project started by Troops 1477 and 1952 of Girl Scouts of Wisconsin Badgerland. Their nationally recognized project, *Concrete Climate Ideas: Girl Scouts Talk Building Materials and Embodied Carbon,* highlighted the importance of engaging youth in the sustainability of the built environment and showcased how young voices can inspire industry action.

In early 2020, the fifth grade girls of Troop 1477 decided to do a project to address climate change and searched for a less commonly discussed, high-impact topic. They spotted building materials on a Project Drawdown list and met with building industry experts to learn key messages to share.

The troop, along with sister Troop 1952, created a video, presented at local building industry events and meetings, inspired a test project with their city engineering department, and advocated for embodied carbon action in the Wisconsin Clean Energy Plan. They produced a second video, this time singing their message, to share at the opening of the American Concrete Institute Convention in spring of 2022. Later that year, they traveled to Greenbuild in San Francisco, where they hosted a booth and presented on stage.

Throughout the project, troop leader Julia Pooler, MBA, LEED AP BD+C, saw a need for simple, accessible materials to introduce green building ideas and jumpstart youth engagement and advocacy towards sustainable design and materials. She founded the nonprofit Carbon Zero Youth Initiative to highlight the importance of green buildings and celebrate the people and career opportunities that make buildings better for all.

Above: Links to the homemade project videos by Girl Scout Troops 1477 & 1952 of Girl Scouts of Wisconsin Badgerland

Fun fact: The watercolor textures for this book were all painted by Girl Scouts of Troops 1477 and 1952!

MORE RESOURCES

World Green Building Council *https://worldgbc.org*
US Green Building Council *https://usgbc.org*
Architecture 2030 *https://Architecture2030.org*
Center for Green Schools *https://centerforgreenschools.org*
Rocky Mountain Institute *https://rmi.org*
Carbon Leadership Forum *https://carbonleadershipforum.org*
Living Future Institute *https://living-future.org*
American Council for an Energy-Efficient Economy *https://aceee.org*
Sustainable Forestry Initiative *https://forests.org*
American Association of Energy Engineers *https://aeecenter.org*
Geothermal Rising *https://geothermal.org*
Green Roofs for Healthy Cities *https://greenroofs.org*
Smart Surfaces Coalition *https://smartsurfacescoalition.org*
Mindful Materials *https://mindfulmaterials.com/*
American Institute of Steel Construction *https://aisc.org*
NEU: An ACI Center of Excellence for Carbon-Neutral Concrete *https://neuconcrete.org/*

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Join Buildy Green for a story about working together to build better—for us and the Earth!

Buildy Green, It Takes a Team! A Better Building Story **celebrates the people working to design, construct, and maintain buildings and highlights how buildings can reduce waste, conserve energy and water, and protect us and our planet.**

Through rhyme and colorful illustrations, the friendly Buildy Green tells why and how he was built with extra care. Buildy's team of professionals introduce their careers and explain sustainable building practices such as deconstruction, life cycle assessment, green roofs, net zero, smart systems, retrofit, and more.

Heartwarming, simple language and interactive activities throughout encourage dialogue and critical thinking at home or in the classroom.

Buildy Green, It Takes a Team! A Better Building Story **is a publication of the Carbon Zero Youth Initiative, Inc., a 501(c)(3) nonprofit organization dedicated to educational outreach towards a sustainable built environment.**

CARBON ZERO YOUTH INITIATIVE

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