

How to Utilize Fans to Cool Air



Overview

01 What is it?

02 Why is it Important?

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05 Conclusion



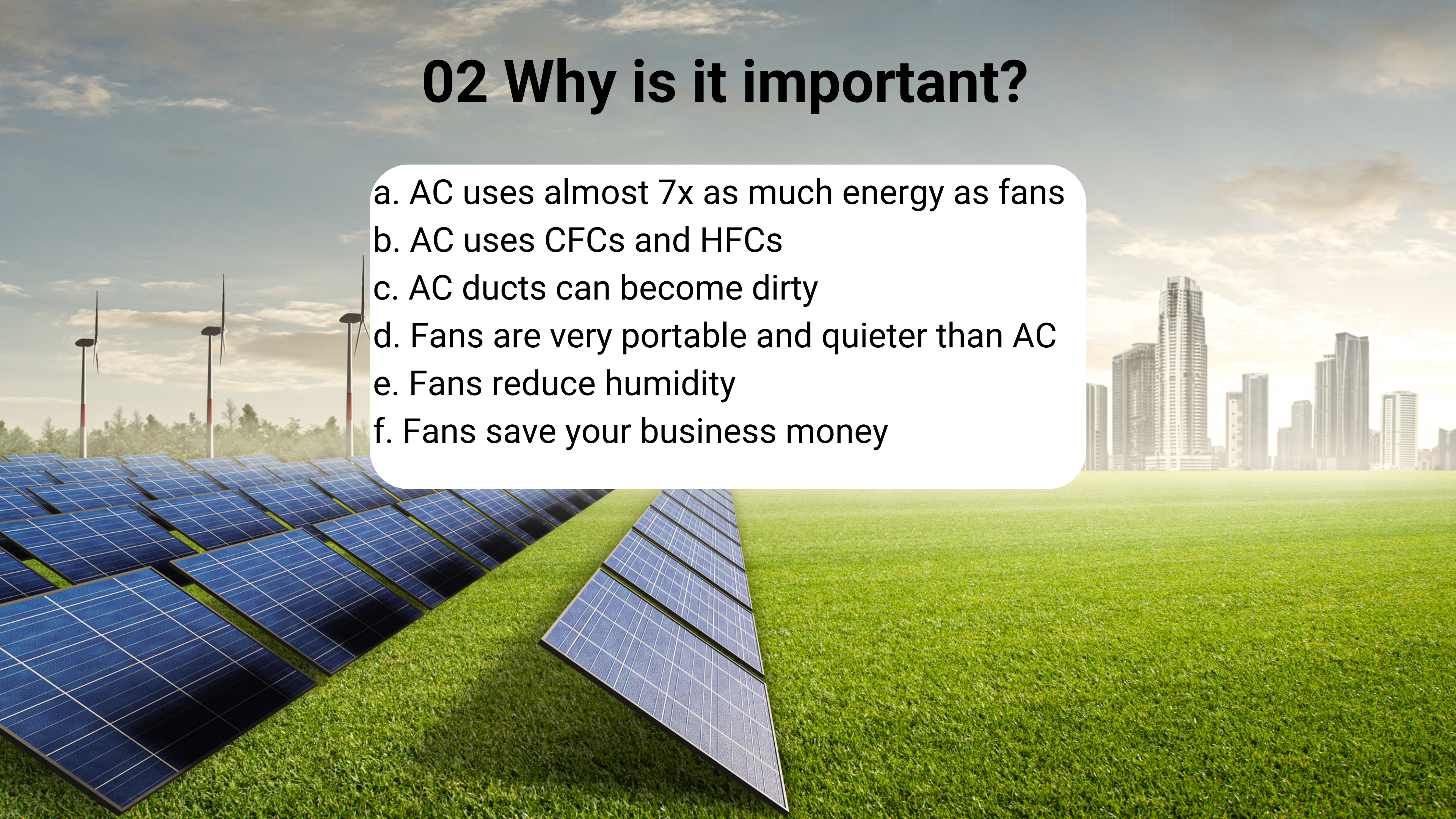



01 What is it?

Utilizing fans to cool air instead of traditional air conditioners reduces your company's environmental footprint, while also saving money!

02 Why is it important?

- a. AC uses almost 7x as much energy as fans
- b. AC uses CFCs and HFCs
- c. AC ducts can become dirty
- d. Fans are very portable and quieter than AC
- e. Fans reduce humidity
- f. Fans save your business money





A. Air Conditioning uses almost 7x as much energy as fans do



Consuming this much energy means a lot more carbon dioxide is being emitted through the burning of fossil fuels, contributing to ozone depletion



The average air conditioner consumes about 3000 to 5000 watts of electricity per hour



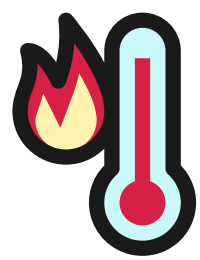
Not efficient in terms of energy use, also costs much more to use AC:

- Air conditioners can cost anywhere from \$15 to \$300 per month to operate
- Fans cost, on average, \$2 per month to operate



B. Air Conditioners use CFCs and HFCs

CFCs and HFCs are cooling agents used in air conditioners that deplete the ozone layer when released



Not only do CFCs and HFCs deplete the ozone layer, but they also act as greenhouse gases and trap heat in the earth's atmosphere



These chemicals are completely man made and contribute to problems like an increase in harmful ultraviolet radiation, climate change, and more



C. AC ducts can become very dirty

Air conditioner ducts can become very dirty with dust and bacteria

When the air conditioner is turned on and this dust and bacteria is released, it can be very harmful for people in the air conditioned building

D. Fans are very portable and quieter than AC units

Fans can be put almost anywhere in your building and can be moved from place to place with ease!



Fans are quieter than AC units

- Air conditioner levels range from 31 to 83 decibels
- Fans noise levels range from 29 to 70 decibels

E. Fans reduce humidity

Fans will circulate dry air inside your office, eliminating any moisture in the room

This is a great way to keep your office cooler and more comfortable on a muggy summer day!



03 How to do it

- a. Use ceiling fans**
- b. Create a cross breeze**
- c. Create a cross breeze with only one fan**
- d. Draw in cool air, expel hot air**
- e. Freeze an empty bottle**

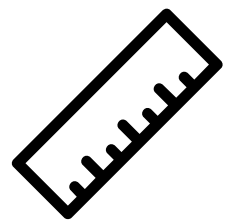




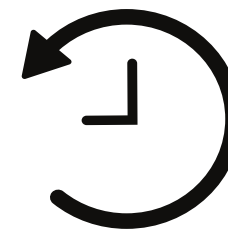
A. Use ceiling fans



Moving air causes skin moisture to evaporate, keeping you cooler



Make sure to properly size your ceiling fans



Make sure your ceiling fan is turning counter-clockwise

- This will cause the cool air to rise

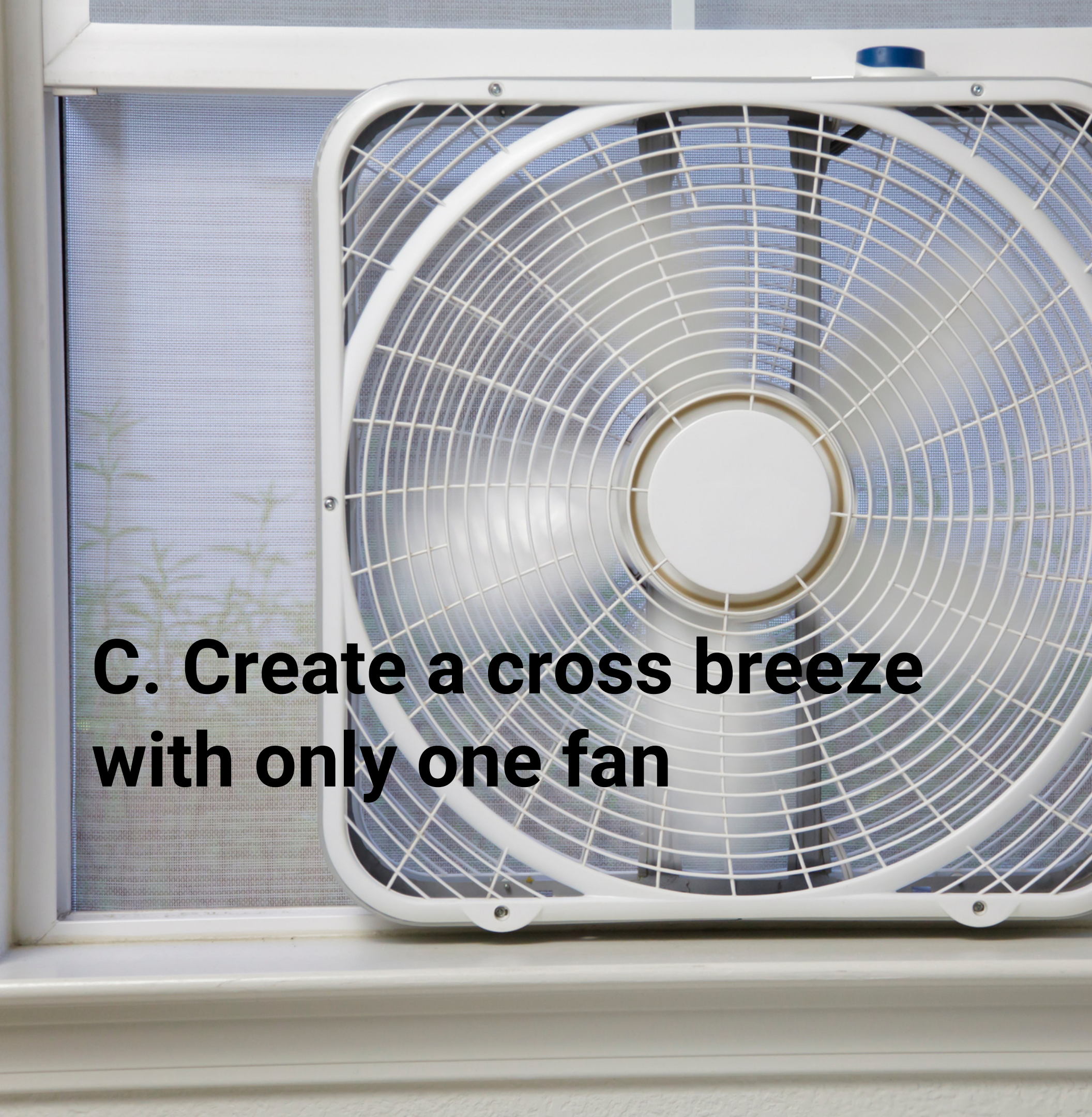


B. Create a cross breeze

Here's how to do it:

1. Position one fan at an open window so it's blowing into the room
2. On the opposite side of the building, find another window that's in a straight line from the first window, then open this second window
3. Position the second fan next to the second window and point the fan so that the air is blowing out of the building
4. Turn on both of the fans and enjoy the nice cool breeze!





C. Create a cross breeze with only one fan

Only have one fan and want to create a cross breeze? Well here's how to do it:

1. Open one window and close all other windows near the open one
2. Find a second window on the other side of the building in a straight line from the first window
3. Remove any obstructions between the windows
4. Open the second window, and turn on your fan!

D. Draw in cool air, expel hot air

This method of cooling your office is very easy and simple:

1. Place a box fan in a window
2. If the air outside is cooler than inside, point the air so that it blows into the house
3. If the air is hotter outside, turn the fan around so that the air is blowing outside



E. Freeze an empty bottle

1. Freeze a 1-liter plastic bottle, place it on a tray and put a damp cloth on top of it
2. Put it in front of a fan so that the breeze can be cooled by the frozen bottle

Another easy way to cool your office, acting as a homemade air conditioner!

- This method will make your office significantly cooler
- A bucket full of ice is another thing you could put in front of a fan to cool the breeze



04 Other ways to sustainably to cool your office



- Awnings
 - create your own shade
- Vines
 - hide sunlight
 - good aesthetic
- External blinds
 - if light in color, external blinds reflect more sunlight
 - creates a slight buffer between hot air outside and cooler air inside
- Roof vents
 - hot air that rises can escape through roof vents, cooling your office
- Use less light bulbs
 - light bulbs emit heat
 - try using smart LED lights
- Paint your roof white
 - light colors reflect heat

A close-up photograph of yellow fiberglass insulation being installed in wooden studs. The insulation is fluffy and fills the gaps between the vertical wooden beams. The lighting is bright, highlighting the texture of the insulation and the grain of the wood.

04 Other ways to sustainably to cool your office

- Insulate

- keep cool air indoors during the hot summer

- Solar screens/window film

- inexpensive

- apply to windows

- doesn't block out light so you can still enjoy your view

- easily removable

- provide tinting for privacy

- Window tuning

- tune your windows to create airflow

- open lower windows to let cool air in, and higher windows on the opposite side of the building to let hot air out

05 Conclusion

- Fans are much more energy and cost efficient than AC units
- Fans are much better for the environment
- There are many ways to use fans to cool your office
- There are also many other ways to sustainably cool your office



Thank You

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CHANGE AND CREATING A
WORLD THAT IS KIND TO ITS
PEOPLE AND ITS HOME

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