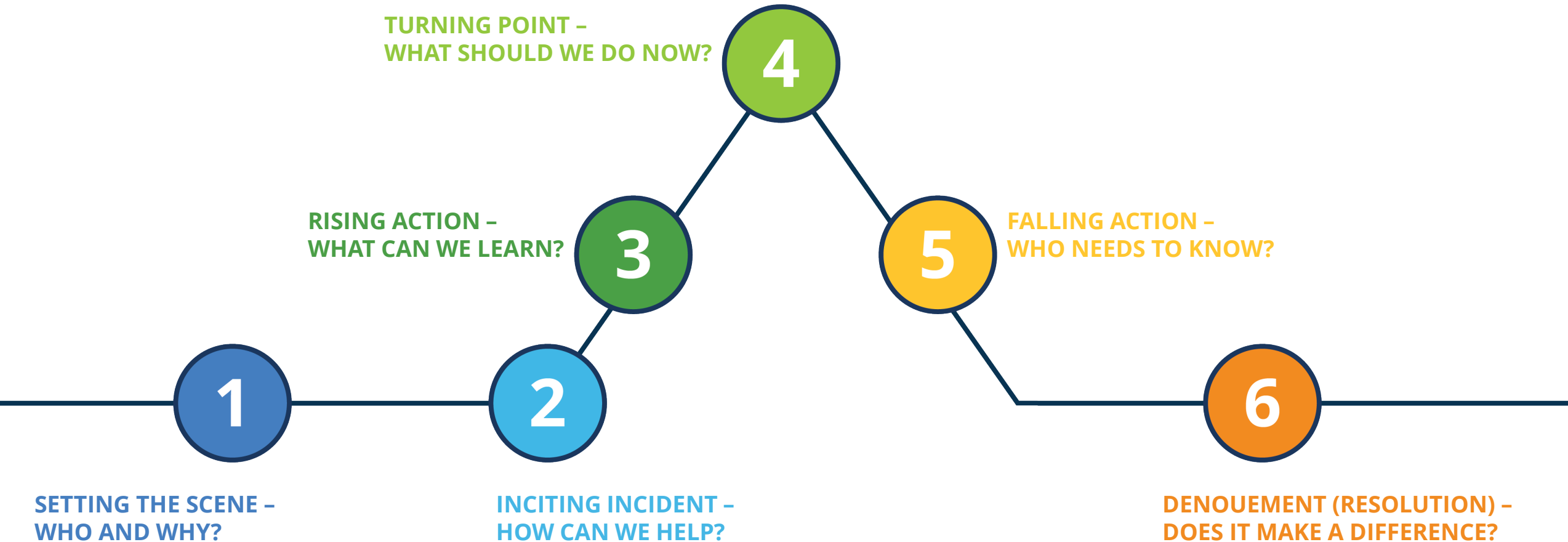


From Research to Impact – Storytelling Science for a Safer World

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THE STORY

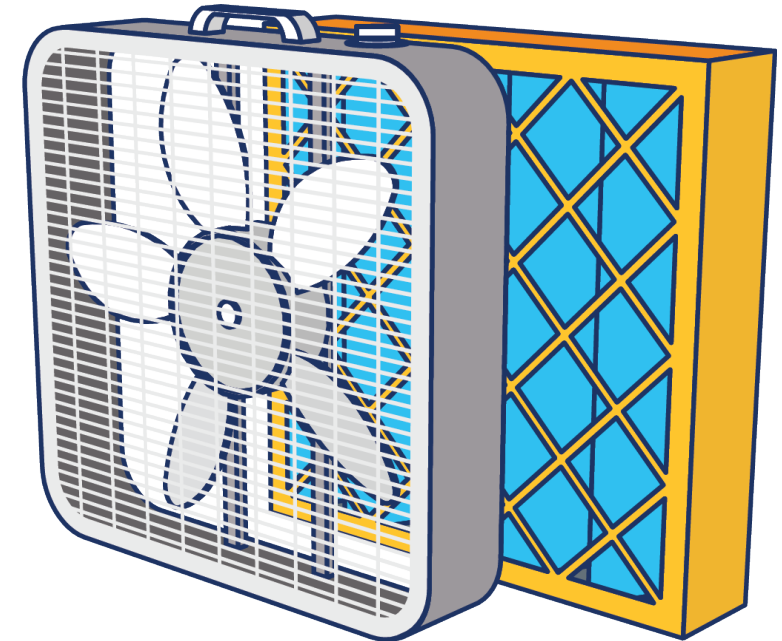
How My Box Fan Turned Into a DIY Air Cleaner





Wildfires: Longer, Bigger & More Destructive

People are Making DIY Air Cleaners, But Are They Safe?



Creating Implementation Tools for Stakeholders



DIY Box Fan Air Cleaner Safety Tips

Use fans that have been verified by an accredited third party to meet the UL 507 safety standard for electric fans or equivalent. To find a verified fan, look for one with a UL or ETL safety marking.

Use a newer model box fan (2012 or later). The newer models have added safety features. Fans built prior to 2012 were not research tested and may pose known fire risks.

Always ensure that there are working smoke detectors throughout the home and that family members have an escape plan in case of fire.

Before Use:

Use the fan in the room you spend the most time in.

Ensure the fan has open space around it with good air movement.

Keep the fan and cords away from water sources to avoid shock.

Keep curtains and loose clothing away from the fan.

Don't balance the fan on the edge of the counter or anywhere that it could fall off.

Avoid tripping hazard in placement of the fan and secure electrical cords.

During Use:

During smoke events, filters will need to be replaced more often, as well as, at the end of a smoke event. Not changing the filter regularly may reduce how well the filter works and may release smoke particles into the air. Make sure to keep extra filters on hand and change the filter when it starts to look dirty or release smoke odors.

Follow the box fan manufacturer's instructions, which can include:

• Don't leave children or pets unattended when the fan is in use.

• Don't use an extension cord.

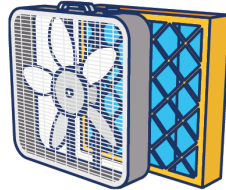
• Don't use a damaged or malfunctioning fan.

• Do not use unattended or while sleeping.

Watch for overloaded circuits while the fan is operating.

Always unplug the fan from the socket when not in use.

Keep the fan and motor clean and do not use if there are any signs of damage.



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UL 200A

GUIDANCE DOCUMENT

Use of Do-It-Yourself Filtration Devices During Wildfires

APPLICATION NOTES

STRATEGIES TO PROTECT AIR QUALITY DURING WILDFIRES

CONSIDERATIONS FOR DO-IT-YOURSELF FILTRATION



Introduction

Wildfires are a growing threat throughout the world. In the U.S., the number of acres affected by wildfires has increased over the last 30 years. Even in communities far downwind, smoke from wildfires has been directly linked to poor air quality that can lead to significant health effects and costs to society. Additionally, there is an increasing number of homes within the wildland urban interface (WUI) (nearly 50 million homes currently) that have the potential to be near wildfires and even more residents downwind who may be affected by poor air quality due to wildfire smoke.

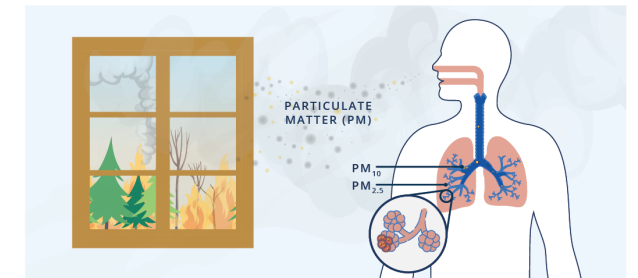
Wildfires are a major source of air pollutants such as fine and ultrafine particulate matter (PM) and volatile organic chemicals (VOCs). Estimates show that wildfires have accounted for up to 25% of PM_{2.5} (particulate matter with a diameter of 2.5 micron or less) in recent years across the U.S., and up to 50% in some Western regions.

WILDFIRE PM_{2.5} CONTRIBUTES TO ADVERSE HEALTH EFFECTS SUCH AS:

- Exacerbation of asthma
- Chronic obstructive pulmonary disease
- Circulatory effects such as heart attacks and stroke

PM FROM WILDFIRES CAN BE OF SPECIAL CONCERN TO THOSE AT RISK INCLUDING:

- People with preexisting health conditions (e.g. heart disease, lung disease, diabetes)
- Pregnant women
- Older adults
- Children
- Certain occupations who are more likely to be exposed to PM such as firefighters and outdoor workers
- People without access to healthy environments
- People without easy access to healthcare



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Getting the Word Out About DIY Box Fans



EPA

CSHEMA

NSTA

NeoCon

AIA

Vulnerable communities

Field studies

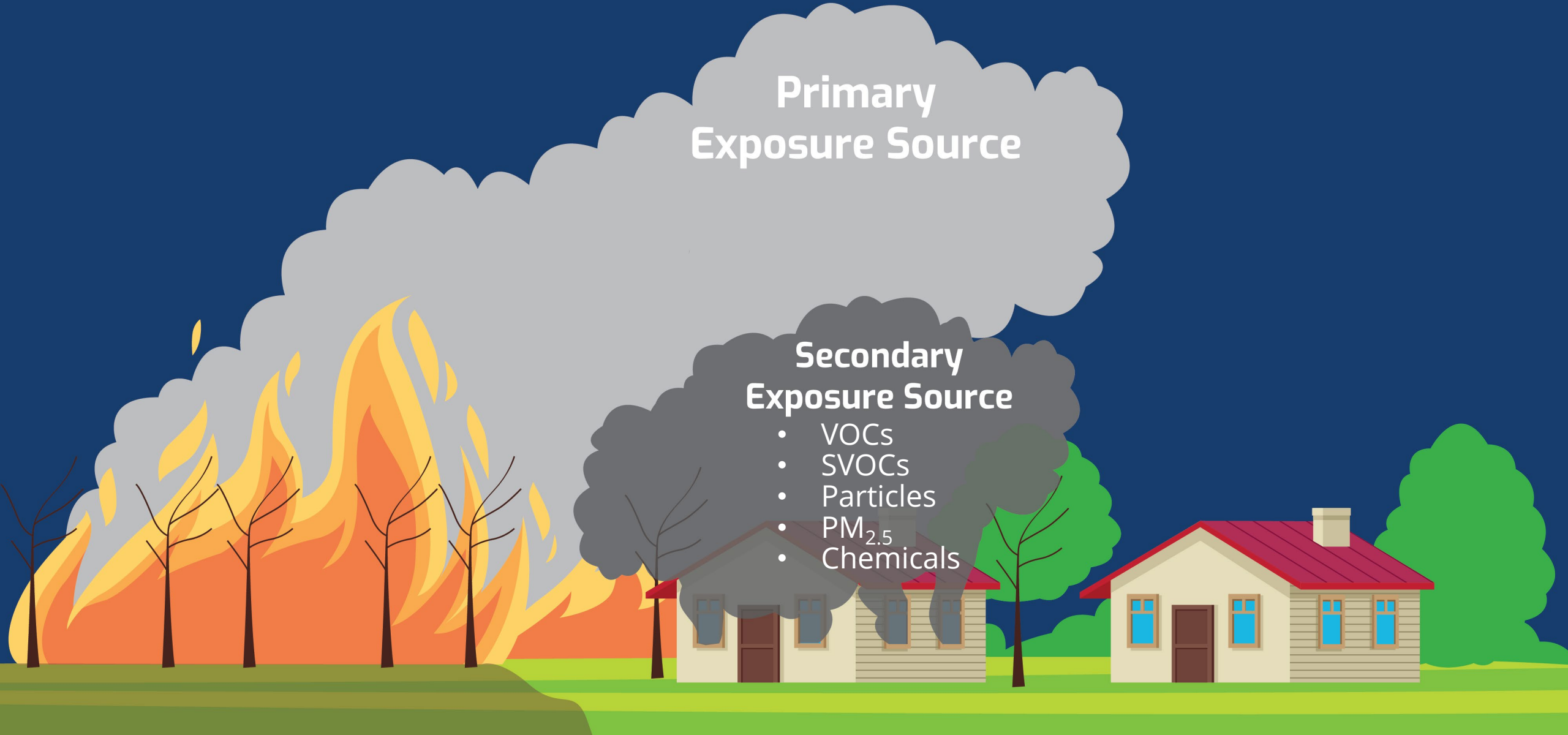
Other applications

Continuing Research - We're Still Learning

**Primary
Exposure Source**

**Secondary
Exposure Source**

- VOCs
- SVOCs
- Particles
- PM_{2.5}
- Chemicals



Thank You



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