

STANFORD CLIMATE AND HEALTH COMMUNITY ADVOCACY GROUP:
AVANTHI PUVVALA AND INDIA ROGERS-SHEPP

Air Pollution and You

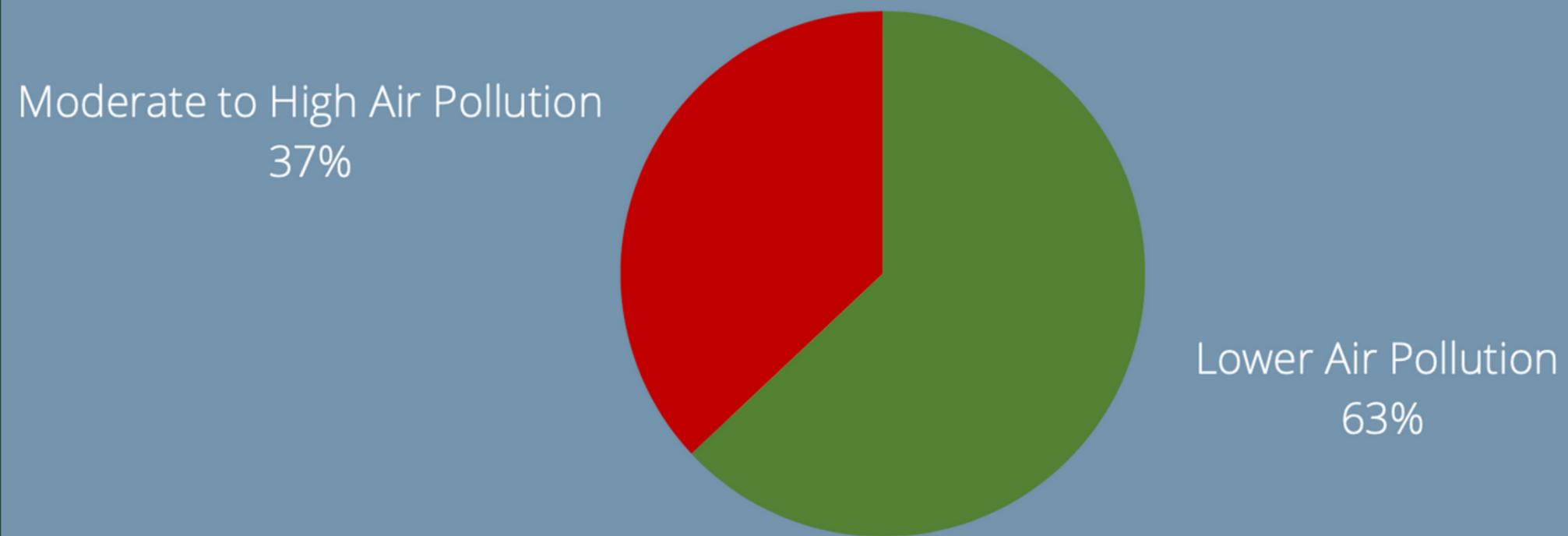
How does it effect us and what can we do?



HOW OFTEN DO YOU BREATHE IN POLLUTED AIR?

HOW OFTEN ARE YOU BREATHING POLLUTED AIR?

PERCENTAGE OF DAYS IN 2019 FOR STOCKTON AND LODI:



<https://www.epa.gov/outdoor-air-quality-data/air-quality-index-report>

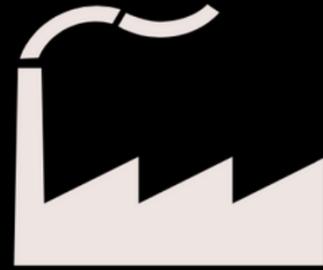
HEALTH IMPACTS OF AIR POLLUTION



- Aggravated Asthma
- Irritation of Airways
- Coughing
- Difficulty Breathing
- Decreased Lung Function in Children
- Development of Chronic Bronchitis
- Irregular Heartbeat
- Heart Attacks
- Lung Cancer
- Premature Death
- Chest Pain
- Throat Irritation
- Congestion
- Lung Inflammation



2018 TOP POLLUTERS ACCORDING TO VALLEY AIR



- Pacific Ethanol Stockton LLC
- Nustar Terminals OPS Partnership LP
- Arrow Infrastructure Holding IA LLC
- Stockton Tri-Industries, INCME
- Contract Coatings
- American Building Supply
- DTE Stockton

WHAT YOU WERE BREATHING IN 2018 ACCORDING TO VALLEY AIR

- 32,801** Pounds of Ammonia
- 5,497** Pounds of Toluene
- 2,540** Pounds of Propylene Oxide
- 1,663** Pounds of Xylenes (mixed)
- 651** Pounds of Propylene
- 264** Pounds of Benzene

http://community.valleyair.org/media/1967/ei-2017-2018-sw-stockton-permit_sources-nox-9-22-20.pdf; http://community.valleyair.org/media/1968/ei-2017-2018-sw-stockton-permit_sources-voc-9-22-20.pdf; http://community.valleyair.org/media/1969/ei-2017-2018-sw-stockton-permit_sources-pm25-9-22-20.pdf; http://community.valleyair.org/media/1970/ei-2017-2018-sw-stockton-permit_sources-toxics-9-22-20.pdf

WILDFIRES



Warmer and
Drier Climate



Intense and
Frequent Fires



What can be released?

- Black Carbon
- Carbon Dioxide
- Brown Carbon
- Secondary Aerosol Particles
- Methane
- Nitrous Oxide
- Particulate Matter



Health Effects from Wildfires

Wildfires can aggravate pre-existing heart and lung conditions

Symptoms may worsen :

- Chest pain
- Shortness of breath
- Palpitations
- Fatigue

Long term health effects:

- Eye and respiratory tract irritation
- Reduced lung function
- Bronchitis
- Asthma exacerbation
- Heart failure
- Premature death.



Those who are most at risk

- Those with preexisting health conditions
- Elderly
- Children
- Pregnant People



How You Can Protect Yourself from Wildfires

Take a break from cooking-esp. frying or boiling- which can increase indoor air pollution

Instead stock up on non-perishables!



Have N-95 masks or P-100 masks on hand

Dust Masks are not enough



Try to keep the indoors as clean as possible

Avoid:

- Smoking
- Lighting candles
- Opening doors/windows
- Anything that burns
- Uncleaned filters

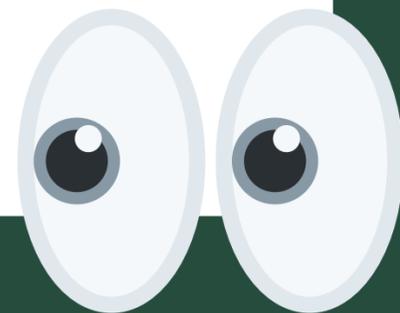


Monitor Local Air Pollution Reports

If the concentration of air particles increases, it is not a good idea to go outside

Use your senses

If it looks hazy outside or if there is a strong smell of smoke or haze, it is probably not best to go outside



HOW TO KEEP YOUR FAMILY SAFE

Always 



Check airnow.gov for air quality info to see if it's safe outside



Consider installing HEPA or MERV 13 filter for HVAC system



Make your own air filter for \$20 using this QR code



On a Day With Good Air Quality

Outdoor Strategies



Bike or walk instead of driving when you can

On a Day with Poor Air Quality

Outdoor Strategies



If you do need to go outside, try and stay inside a vehicle



Wear an N95 mask

Indoor Strategies



Stay indoors, close windows, and minimize non-essential car trips if pollutant levels are dangerous



Indoor Air Pollutants



Mold

The Key to Mold Control is Moisture Control.

- Fix any leaks in walls / roof
- Make sure there is good ventilation in the home
- Can be cleaned with a bleach solution of 1 cup household bleach and 1 liter of water

<https://www.epa.gov/mold>

Asbestos

- Naturally occurring fibrous materials that can get caught in your lungs and cause great damage
- Can come from broken down or disturbed construction products in the home
- Avoid touching these products because the fibers can be released and remain in the air -> lung cancer and mesothelioma
- Hire trained professionals to remove

<https://www.lung.org/clean-air/at-home/indoor-air-pollutants/asbestos>

Tobacco Smoke

- The home can become the primary source of secondhand smoke, which causes 41,000 deaths a year
- Greatly reduces the quality of indoor air
- Ventilation can reduce
- Suggested that smokers try and quit, and in the meantime try and smoke outside

<https://www.epa.gov/indoor-air-quality-iaq/secondhand-smoke-and-smoke-free-homes>

Recycling in a perfect world



Company purchases the recycled material to be included in their product

Energy and resources are saved as previously used material is now used in this product, supporting the recycling market

Consumers buy the product and use it

This supports sustainable business and gives companies an incentive to incorporate sustainable practice

Waste Collection

The consumer drops off the waste in the appropriate bin where it is then picked up by their local hauler

Transport and Sort

The materials are transported to a MRF facility and sorted into bales based on the composition of the material

Bales converted into material

The clean, used material is melted down and reformed into a basic form of the material to be used in manufacturing once more

Recycling in our world

Contaminated Bales are sent to waste/ incinerated

The contaminated waste only adds to the waste in landfills and incinerated waste leads to greater pollutants in the air

Bales are contaminated

The material is either not recyclable by the service or is too dirty for the service to clean. So it will contaminate the whole bale

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How to Recycle Right

Recycle only empty/dry bottles, cans, paper, and cardboard



Keep recyclables loose, do not keep in trash bags



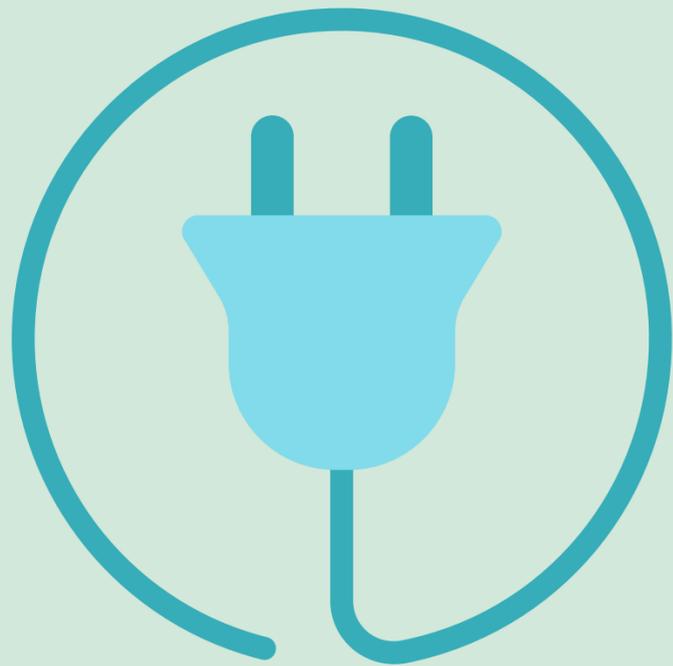
Keep Food and Liquid out of the Recycling Bin



No Plastic Bags in Recycling Bin

Plastic Bags should be taken to your local grocery store for commercial recycling





Energy Saving Tips

Use LED lights!
75 percent of energy is saved and 25 percent longer lasting. They are less expensive in the long run

Clean fridge coils every 6 months. This will allow the fridge to not have to use as much energy to cool

Turn the temperature down on your hot water heater. The water will still be warm but will not take as much energy

Unplug what you don't use

Unplugging your toaster, blender, etc. when not in use saves up to 90 percent of spent energy!
Powerstrip use is easiest

[HTTPS://WWW.YOUTUBE.COM/WATCH?V=STCLEOJPVMY](https://www.youtube.com/watch?v=STCLEOJPVMY)
[HTTPS://WWW.YOUTUBE.COM/WATCH?V=GBFUNGLOYYI](https://www.youtube.com/watch?v=GBFUNGLOYYI)

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Thank You!

