

The air we breathe

The state of Minnesota's air quality 2017

Transportation Advisory Board

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February 15, 2017

Key take-aways

- ≈ Air quality affects our health
- ≈ There are inequities in exposure and health outcomes
- ≈ Minnesota's air quality is good, but more is needed to protect our most vulnerable
- ≈ Most air pollution in MN comes from our everyday activities

AIR QUALITY AFFECTS OUR HEALTH

Health impacts of air pollution

Air pollutants can have a serious impact on human health. Children and the elderly are especially vulnerable.



Cardiovascular

- Chest tightness
- Heart attacks
- Stroke



Respiratory

- Wheezing
- Cough
- Asthma attacks
- Infections
- Reduced lung function



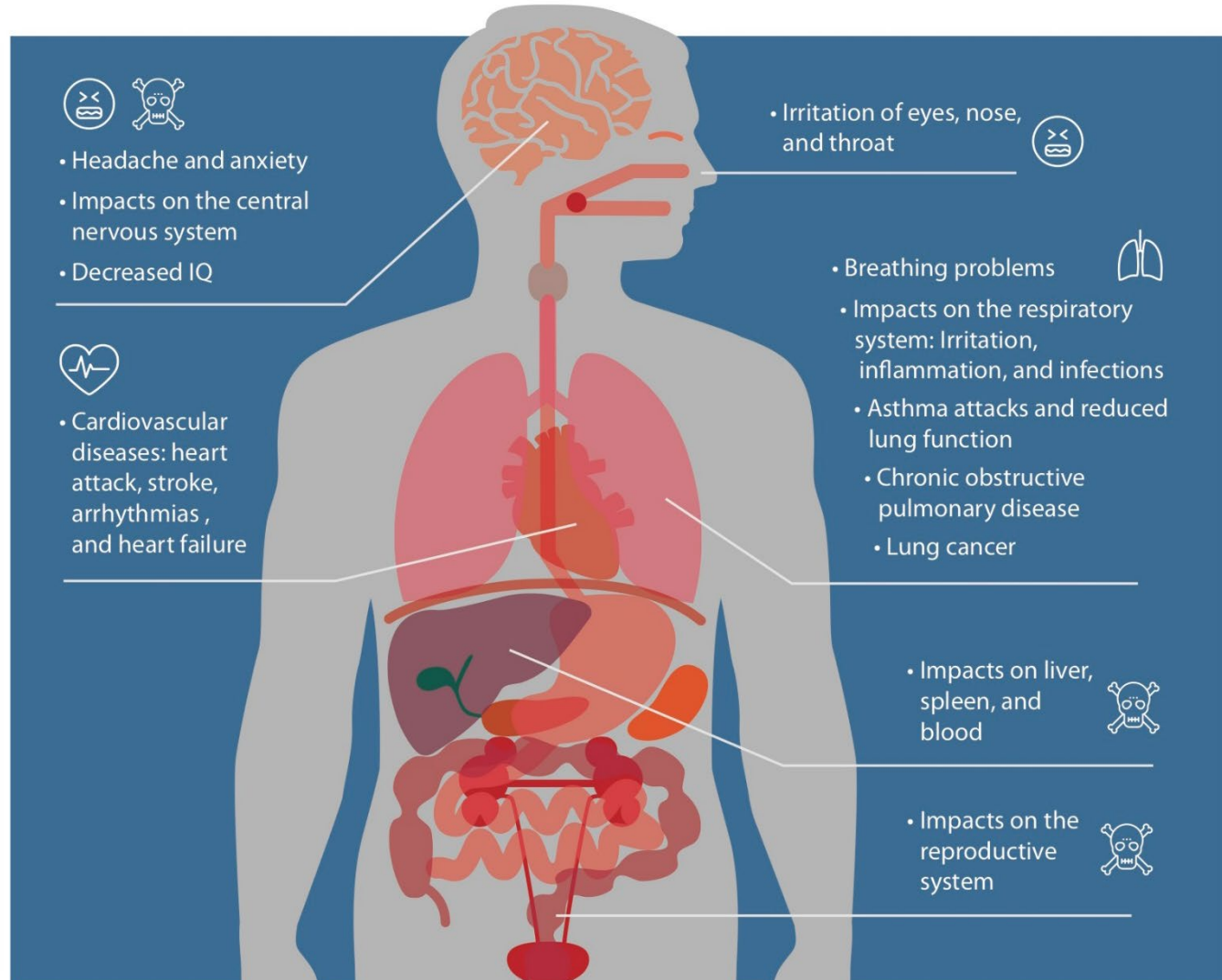
Irritation

- Scratchy throat
- Runny nose
- Watery eyes
- Excess mucus



Toxic effects

- Nerve damage
- Decreased organ function
- Birth defects
- Cancer

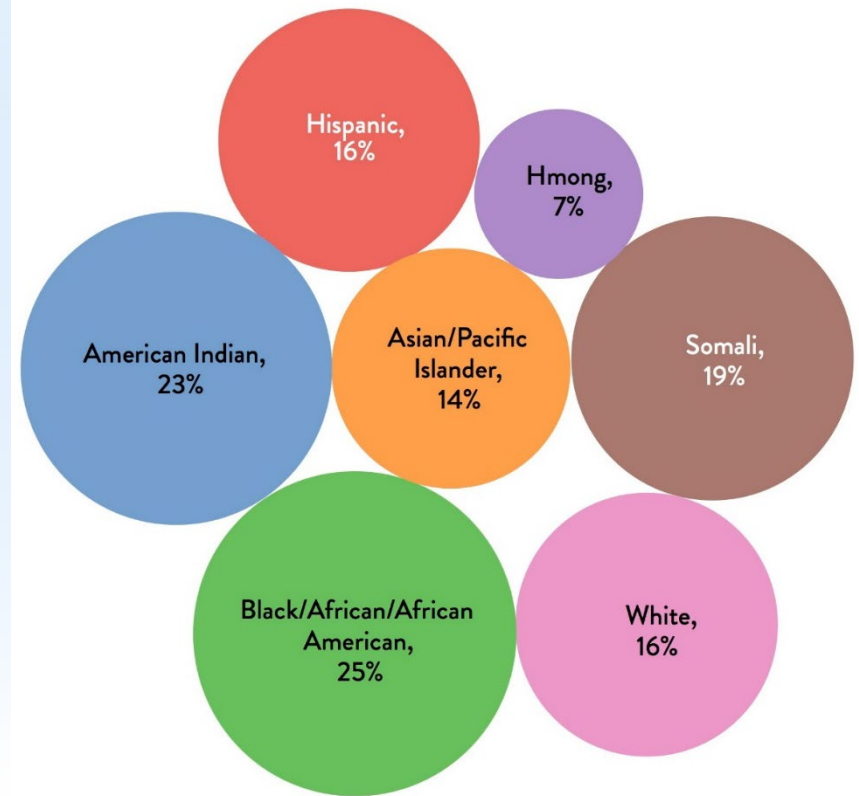


Who is affected by air pollution?

- ≈ Anyone, especially on bad air days
- ≈ Some people are more affected than others:
 - ≈ People with heart and lung conditions
 - ≈ The elderly
 - ≈ Children
 - ≈ People who are active outdoors

Environmental justice

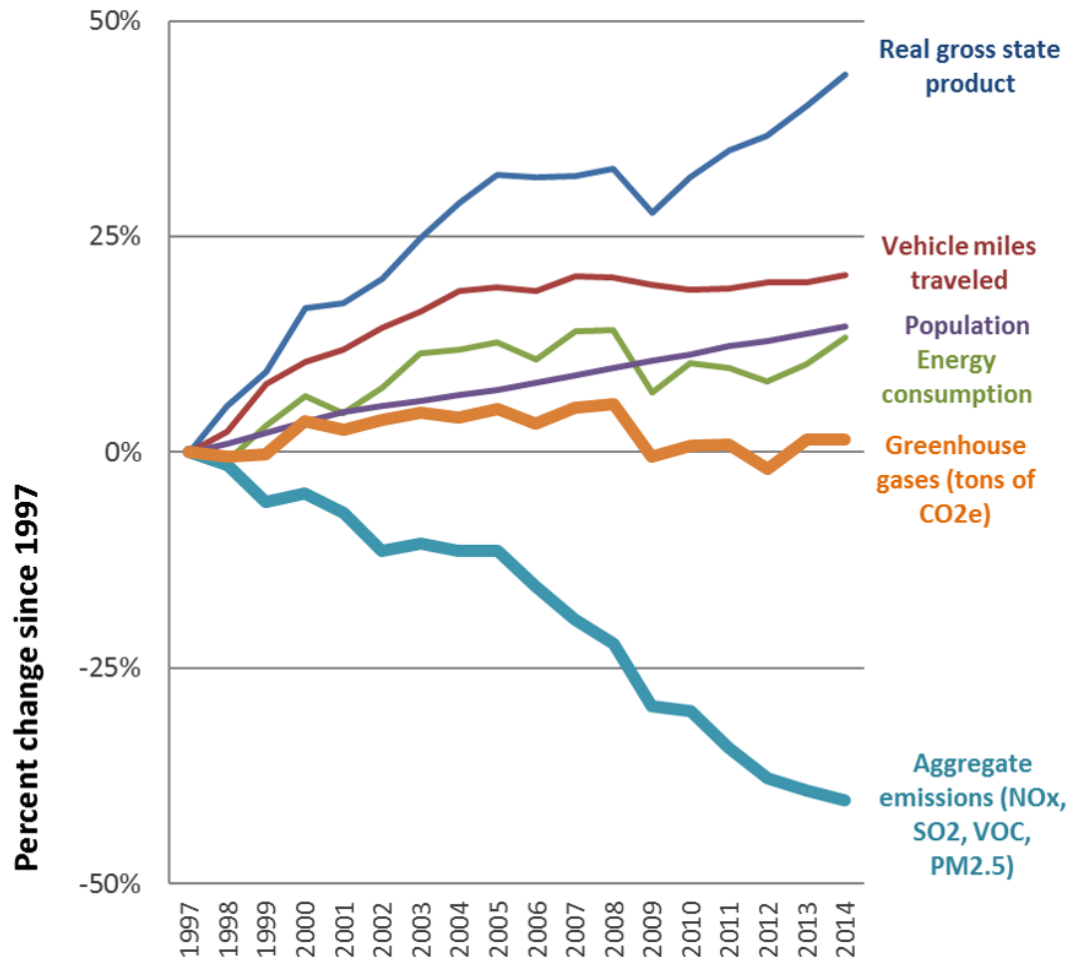
- ≠ Inequities in exposure and health outcomes for some groups
 - ≠ People of lower income
 - ≠ People of color



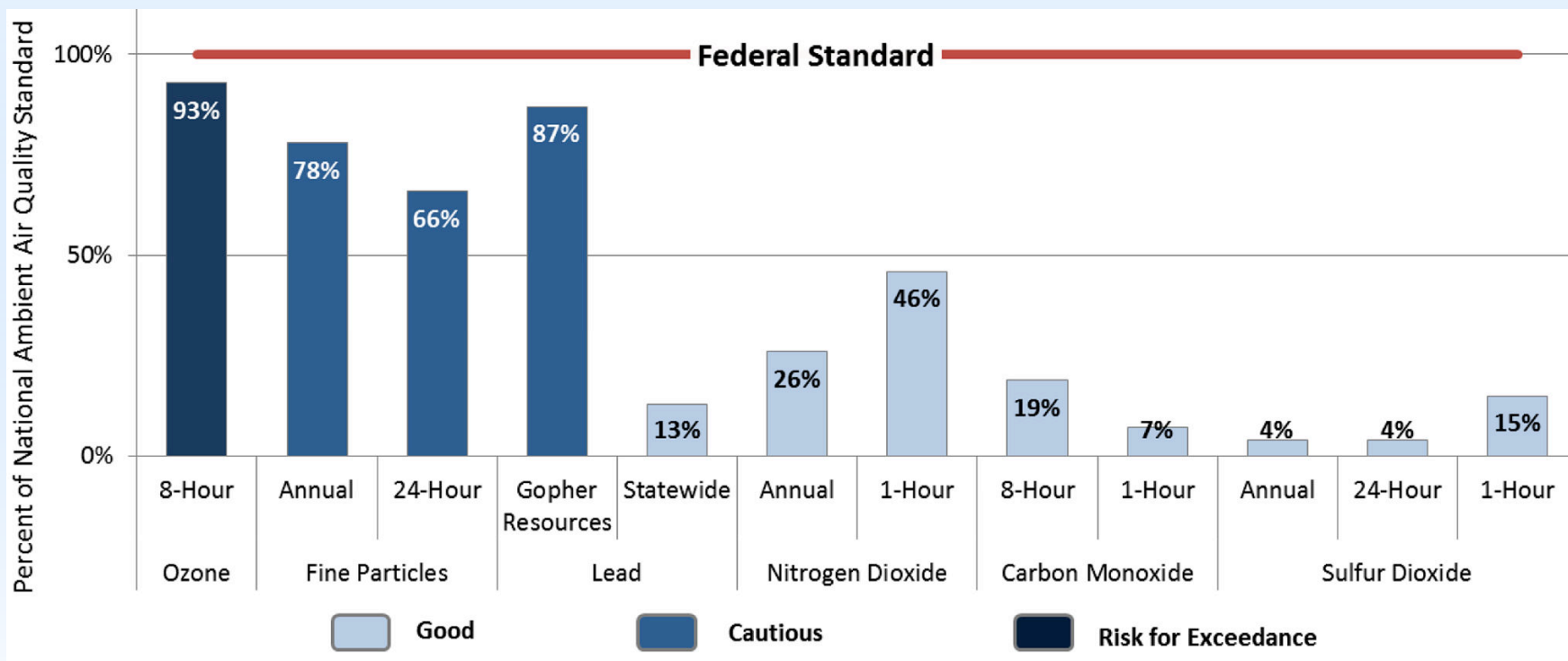
Percentage of 8th graders diagnosed with asthma by race/ethnicity in MN

MINNESOTA'S AIR QUALITY

Air pollution and our economy

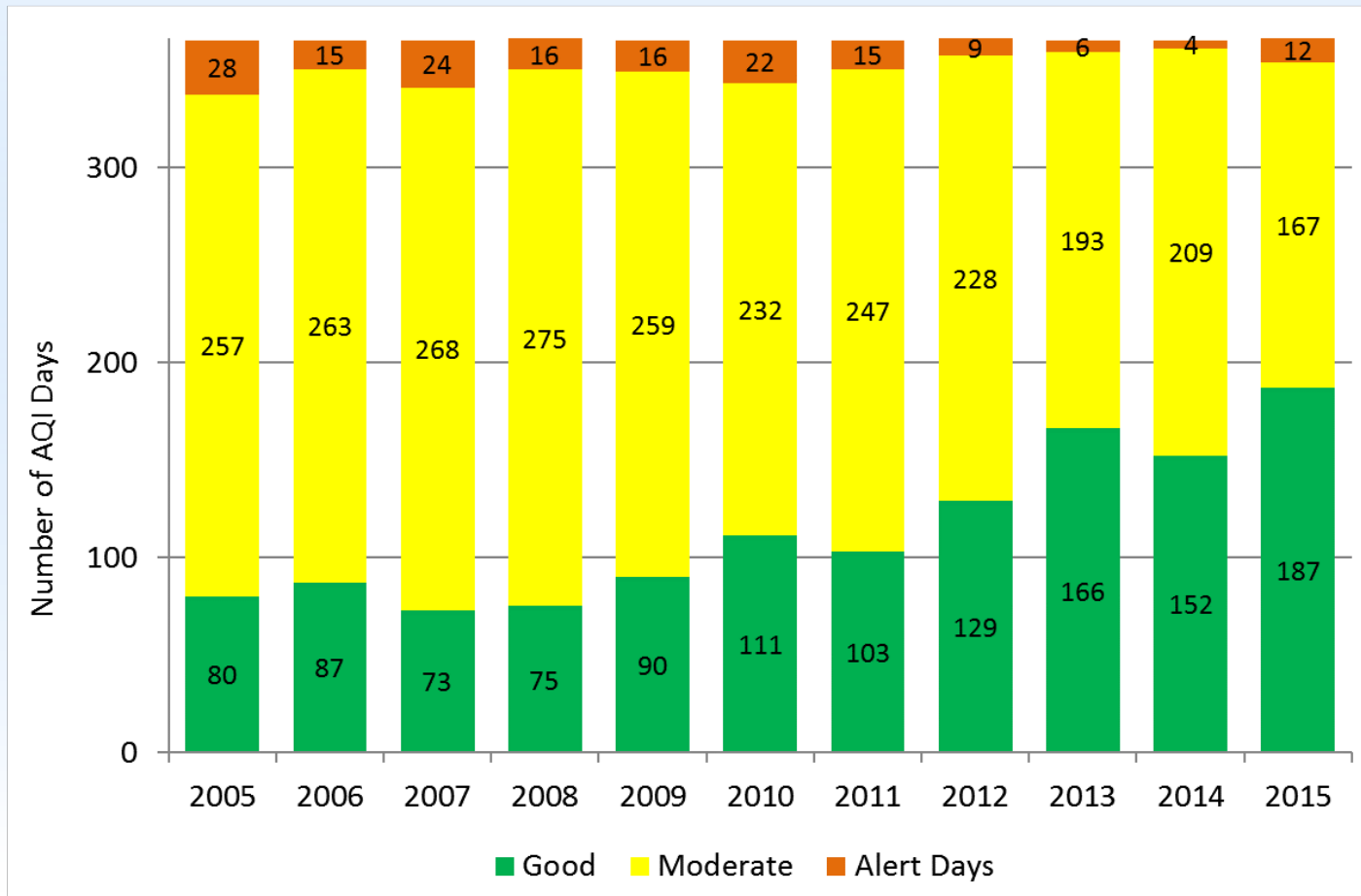


Federal standards



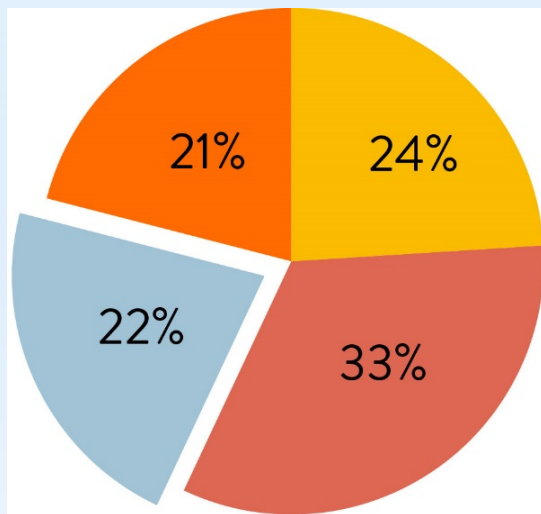
Bad air days

Statewide trend in Air Quality Index days, 2005-2015



MOST AIR POLLUTION IN MN COMES FROM OUR EVERYDAY ACTIVITIES

Overall air pollution by type



- On-road vehicles 24%
Cars, trucks
- Non-permitted sources 33%
Small businesses, heating, woodsmoke
- Off-road vehicles and equipment 21%
Construction and agricultural
- Permitted sources 22%
Power plants, factories

Small and widespread sources are the largest portion of overall air pollution emissions in Minnesota

WHAT WE'RE DOING

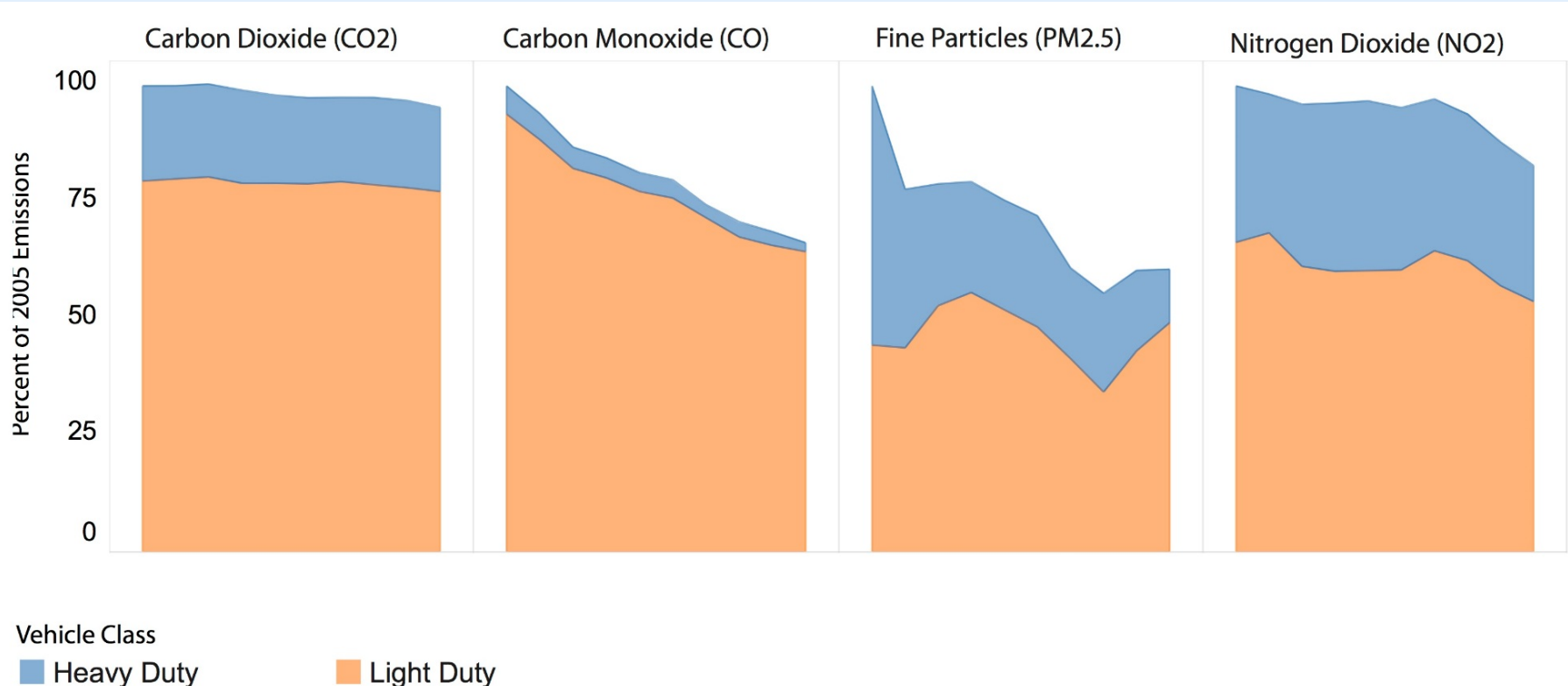
Vehicles and heavy-duty equipment

- ≠ Federal actions
- ≠ Transportation planning
- ≠ Consumer and business decisions



Federal standards

Emission trends in MN for major vehicle-related pollutants 2005-2014



Transportation planning

- ≠ Land-use planning
- ≠ Multi-modal transportation options
- ≠ Reducing congestion



Consumer and business choice

- ≠ Mode of travel
- ≠ Vehicle miles traveled
- ≠ Efficiency of vehicle
- ≠ Age of vehicle



Vehicle type

47%

Cars

53%

Trucks, SUVs,
vans



30%
of emissions



70%
of emissions

Diesel trucks and equipment

One old truck can pollute more than 30 new diesel trucks

Depending on factors such as the age of the truck, how far it travels, and how much it idles, one old diesel truck can produce as much particle pollution as 25-50 modern trucks under the same operating conditions.

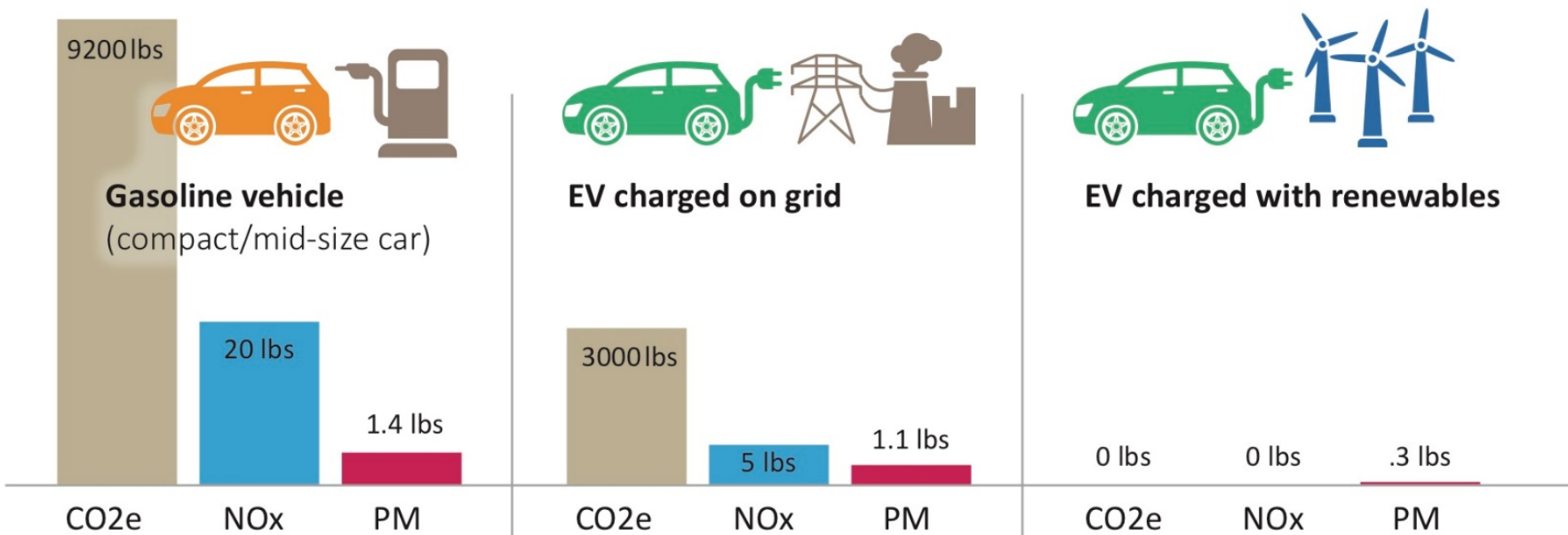


vs.



Electric vehicles

Annual vehicle emissions by fuel type (12,000 miles)



WHAT YOU CAN DO

Keep up the good work!

- ≈ Partnerships are critical
- ≈ Remember:
 - ≈ Land-use planning
 - ≈ Multi-modal transportation options
 - ≈ Congestion mitigation



Get involved!

- ✧ Get involved with Clean Air Minnesota
- ✧ Be Air Aware MN:
<https://www.beairawaremn.org/>
- ✧ Become an Air Aware Employer



Sign Up for Air Mail

- ✧ Updates on air quality issues and the work of the MPCA and our partners.

www.pca.state.mn.us/airmail



Check out the report

≠ The Air We Breathe

www.pca.state.mn.us/air/air-we-breathe-2017



The screenshot shows the Minnesota Pollution Control Agency website. At the top is the agency logo and a search bar. Below is a navigation menu with items like "Air", "Water", "Waste", "Regulations", "Living Green", "Quick links", "Data", and "About the MPCA". The main heading is "The air we breathe 2017". A paragraph of text follows, stating that over the past 30 years, the federal Clean Air Act has resulted in drastic reductions in air pollution across the country. To the right is a "In this section:" sidebar with links to "Why we care", "Air quality and health", "How's the air?", "Everyday pollution", "Vehicles and equipment", and "Industrial facilities". Below the text are six image-based links: "Why we care" (Clean air means healthier people and a better economy), "Air quality and health" (Exposure to air pollution can affect everyone's health), "How's the air?" (What the science says about Minnesota's air quality), "Everyday pollution" (Air pollution that is not from traditionally regulated point sources), "Vehicles & equipment" (Pollution coming from cars, trucks, and heavy-duty equipment), and "Industrial facilities" (Pollution from Minnesota facilities we permit and regulate). A "Read the full report" link is at the bottom right.

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