# Climate & Health Equitable Transition to a Carbon-Free Future

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# Climate Change is a Health Emergency

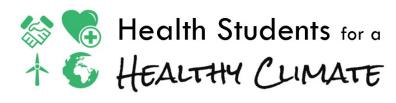
MN Declaration on Climate Change & Health Signers



























#### **Minnesota Chapter**



# Health impacts of climate change

- Fossil fuel pollution responsible for ~ 8.7 million premature deaths/year.
- Extreme heat, severe storms and flooding, wildfires, drought, vector-borne diseases, and air pollution are increasingly impacting the physical and mental health of Minnesotans.
- Underlying socioeconomic conditions, health disparities and disproportionate exposure to pollution place BIPOC and low-income communities at highest risk from climate change, with fewer resources to adapt to and recover from climate events.



# Extreme heat

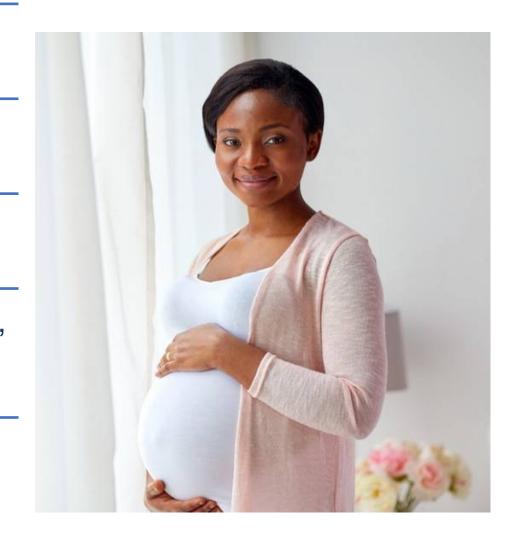
More very hot days, higher humidity, longer & hotter heat waves

14.5 million Americans exposed to heat waves annually (2000-2016)

Causes dehydration, heat exhaustion and risk of death from heat stroke

People in cities, low-income and rural communities, elders, children, and outdoor workers at highest risk

High risk for preterm birth, with higher risk for black mothers



# Air pollution

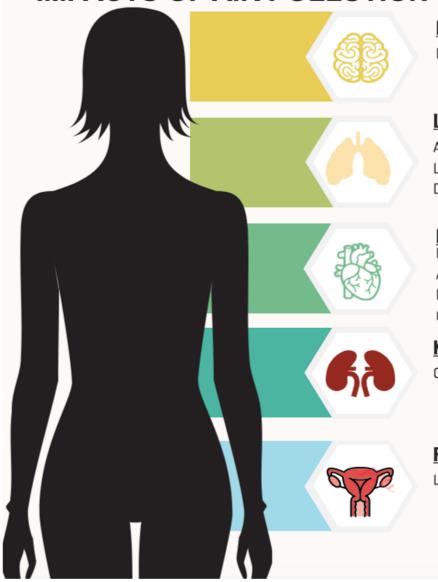
PM 2.5 alone linked to 350,000 premature deaths annually in the US.

Increases with high heat, wildfires

Exacerbates asthma and allergies



#### **IMPACTS OF AIR POLLUTION ON HUMAN HEALTH**



#### **BRAIN**

Ischemic Stroke in adults

#### **LUNGS**

Asthma Exacerbations
Lung Cancer- Causal Link
Decline in Lung Capacity/Exercise Tolerance

#### HEART

Hypertension
Atrial Fibrillation
Myocardial Infarction
Cardiovascular morbidity/mortality- Causal Link

#### <u>KIDNEYS</u>

Chronic Kidney Disease

#### REPRODUCTIVE SYSTEM

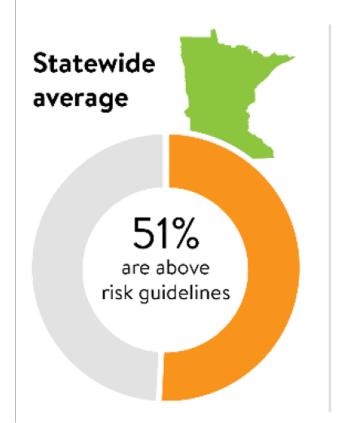
Low-birth weight

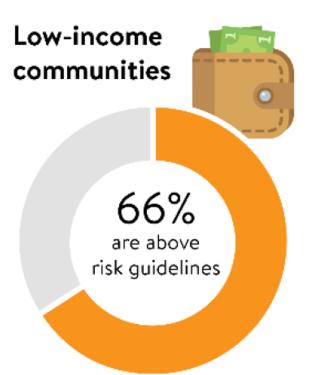


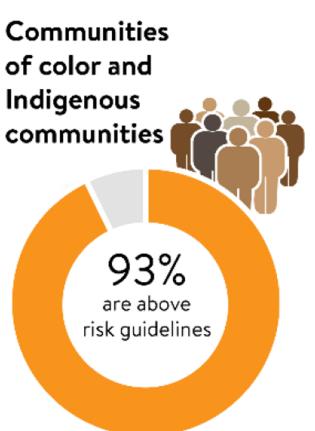
- American Heart Assn: PM 2.5 increases cardiovascular morbidity and mortality
- IARC: diesel exhaust is linked to lung cancer risk
- Leading contributor to stroke
- In 2013 contributed to estimated 2,000-4,000 deaths, 500 hospital stays, 800 ER visits in Minnesota

## Air quality risk

These communities are more likely to be near higher levels of air pollution.







# Health benefits of switching out gas appliances

- Gas stoves emit NOx, CO, PM which increase risk for asthma, heart attacks, COPD, stroke and developmental delay
- BIPOC and low-income communities bear a larger burden of gas stove pollution
- Electric appliances are 3-5 times more efficient than gas, reduce energy costs and improve indoor air quality
- In CA replacing gas with electric appliances would prevent 350 premature deaths a year & yield \$3.5 billion in health benefits from cleaner air



### Health co-benefits of GHG reductions



- Fossil fuel emissions are the primary cause of over 6.5 million air pollution deaths/year
  Reducing GHG emissions prevents
- Reducing GHG emissions prevents premature deaths and lowers incidence of heart disease, asthma, COPD and reduces subsequent ER visits/hospitalizations for these issues.
- Climate action investment matters Inflation Reduction Act
  - Invests \$369 billion in climate action
  - Projected GHG reductions 40% below 2005 levels by 2030
  - By 2030 would prevent:
    - 3,600 premature deaths
    - 100,000 asthma attacks
    - 400,000 lost workdays
  - Invests \$60 billion in EJ initiatives

# Climate Justice Policy Solutions

- Transportation: active transit and public transit, EV incentives and infrastructure, electric school and MTC buses
- Energy efficiency: weatherization and pre-weatherization, access to solar and transition from gas
- Reduce pollution burden
- Invest in resilient infrastructure, tree planting and local food systems
- Help communities access IRA EJ grant funding for community planning