



# Informing Policy Makers About the Health Benefits of the Clean Power Plan: A Toolkit for Health Professionals

March 30, 2016



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CENTER *for*  
CLIMATE CHANGE  
COMMUNICATION

## Purpose of Toolkit

Actions to reduce emissions of carbon pollution and other greenhouse gases that accelerate climate change will protect human health in both the short and long term. In 2015, the Environmental Protection Agency (EPA) required every state to reduce the output of carbon pollution (carbon dioxide) that results from the generation of electric power within the state by about 30% by 2030. States are required to develop their own plans and must have a mechanism to consider public input as part of the process (EPA, 2015). This Toolkit is a guide for those who wish to inform policy makers in their state about the adverse health implications of fossil fuels and the more healthful alternative--clean renewable power sources—and improved efficiency, which can reduce power production and extend its use.

When the new regulation was finalized, a number of states sought legal action to try to stop its implementation. In early 2016, the Supreme Court put on hold the implementation requirement pending the decision of a lower court. While 19 states are moving forward with plans anyway, another 19 are on hold, and 7 states are deciding what to do. (Note that several states are exempt because they are already under the carbon limits.) It may be especially helpful to inform policy makers during 2016 in the 19 states that *are* moving forward--and in those that *are deciding* whether to go forward at this time (namely Arizona, Florida, Iowa, Missouri, New Mexico, South Carolina, Tennessee). It may also be beneficial to express opinions in some cases that have suspended planning. The EPA firmly believes the Clean Power Plan will be upheld for all states when the merits are considered because the rule rests on strong scientific and legal foundations. If this is so, the remaining states will also greatly benefit from input from stakeholders.

In this toolkit, you will find:

- A background summary on the health effects of climate change
- A background summary on the Clean Power Plan
- A draft letter to use for writing your concerns to state policy makers
- An information sheet to offer policy makers
- Messaging to use for oral testimony and in-person discussions
- Dates of scheduled state hearings and meetings for selected states\*
- Interactive maps

\*Information on other states can be found through each state's Departments of the Environment or Natural Resources by searching for the Clean Power Plan.

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## Useful interactive maps and state-by-state facts :

- A. How does your State generate electricity (gas, coal, renewable)?  
<https://www.washingtonpost.com/graphics/national/power-plants/>
- B. American Lung Association: what is the state of the air in your county?  
<http://www.stateoftheair.org/>
- C. Opinion map on policy solutions by State & congressional district  
<http://environment.yale.edu/poe/v2014/>
- D. What are CO<sub>2</sub> reduction goals, intentions of your State?  
[http://www.eenews.net/interactive/clean\\_power\\_plan](http://www.eenews.net/interactive/clean_power_plan)

## Health impacts of Climate Change

This information is adapted from the National Climate Assessment, which summarizes the impacts of climate change in the United States now and in the future. It was produced by a team of more than 300 experts, guided by a 60 member Federal Advisory Committee, and was extensively reviewed, including by a panel of the National Academy of Sciences. Confidence levels are offered for each finding. The material presented here and the references are found in the health sector report at [http://nca2014.globalchange.gov/report\\_sectors/human-health#intro-section-2](http://nca2014.globalchange.gov/report_sectors/human-health#intro-section-2))

Climate change, together with other natural and human-made health stressors, influences human health and disease in numerous ways. Some existing health threats will intensify (e.g., COPD and asthma) and new health threats will emerge (e.g., the spread of vector-borne diseases to areas where this is not commonly seen). Not everyone is equally at risk. Important considerations include age, economic resources, and location. Preventive and adaptive actions (such as reducing the sources of global warming, setting up extreme weather early warning systems, or improving water infrastructure) can reduce the severity of these impacts. Health effects of the disruption to the climate include exacerbations of respiratory and cardiovascular disease, injuries and premature deaths related to extreme weather, more widespread allergy symptoms, changes in the prevalence and geographical distribution of foodborne, waterborne and vector-borne illnesses and diseases, and threats to mental health.

### **Key climate change-induced drivers of health impacts include:**

- Increasingly frequent, intense, and longer-lasting periods of extreme heat, which is a direct threat and also worsens drought, and the risk of wildfires;
- Air pollution risks (because heat increases ozone formation and increases reliance on air conditioning that demands more carbon polluting electric power);

- Increasingly frequent extreme precipitation, intense storms, and changes in precipitation patterns that lead to ecosystem change and impacts the food supply;
- Rising sea levels that intensify coastal flooding with the tides and storm surges;
- Increasing extent of growth of pollen producing plants and longer pollen seasons (Melillo, 2014).

Drivers of vulnerability include the attributes of certain groups (age, socioeconomic status, race, current level of health) and of place (floodplains, coastal zones, latitude, and urban areas), as well as the resilience of critical public health infrastructure (warning s. Multi-stressor situations, such as impacts on vulnerable populations following natural disasters that leave less healthy environments (with mold, damaged water or thermostat controls) also damage the social and physical infrastructure necessary for resilience and emergency response. These factors are particularly important to consider when preparing for the impacts of climate change on human health.

### **Key Message 1 of 4: Wide-ranging Health Impacts (Melillo, 2014)**

Climate change threatens human health and well-being in many ways, including impacts from increased extreme weather events, wildfires, decreased air quality, threats to mental health, and illnesses transmitted by food, water, and disease carriers such as mosquitoes and ticks. Many of these health impacts are already underway in the United States.

#### **Air Pollution:**

The effects of decreased air quality on human health are well known. The principal pollutants are ozone and particulate matter. Since higher temperatures lead to ground level ozone formation, and ozone irritates the lung airways, rising temperatures lead to adverse impacts on chronic lung disease and asthma causing symptoms, emergency room visits and hospitalizations. Particulate matter is a cause of inflammation and adversely affects the cardiorespiratory system. Power generation (from fossil fuel sources) to support higher demand for air conditioning and wildfires (enhanced by drought) produce increases in particulate matter which have a detrimental effect on cardiorespiratory disease (asthma, chronic lung disease, heart disease).

**Allergens:**

Rising temperature and atmospheric carbon dioxide (CO<sub>2</sub>) concentration are shifting the flowering time, pollen initiation and pollen quantity from allergic plants. The allergy season has increased in both duration and severity as a result.

Ragweed is a notable source since it is widespread along the East Coast, the South, Mid-Atlantic, and Mid-West. Grasses and other sources of plant allergies also now persist in the environment with prolonged growing seasons. Extreme rainfall and higher temperatures are causing increased indoor air quality issues with growth of fungi and mold.

**Wildfire:**

The effects of wildfire on human health are generally acute. Wildfire smoke contains large amounts of particulate matter which can travel hundreds of miles. Particulates have negative impact on lung health and cardiac conditions. Increases in wildfire frequency and extent are causing negative health impacts in the Western and Mountain states.

**Temperature Extremes:**

Heatwaves are the leading cause of mortality from extreme weather. Increased use of emergency rooms and hospitalizations resulting from heatwaves are documented. Heat illnesses including heat exhaustion and heat stroke claim the lives of people of all ages, but certain groups are at greater risk. These include the elderly (especially those who live alone), the very young (<1 years old) those who work outside or participate in athletics out of doors, and vulnerable citizens with few resources, including the urban poor, and the homeless.

**Precipitation Extremes - Heavy Rainfall, Flooding, and Droughts:**

Heavy precipitation has contributed to increases in severe flooding events in certain regions. Floods are the second deadliest of all weather-related hazards in the United States. Elevated waterborne disease outbreaks have been reported in the weeks following heavy rainfall, although other variables may affect these associations. Populations living in damp indoor environments experience increased prevalence of asthma and other upper respiratory tract symptoms.

### **Disease Carried by Vectors:**

Climate is a factor that influences the range of disease vectors; a shift in the current range may increase vector interaction with people and affect human health. North Americans are currently at risk from a number of vector-borne diseases. There are some ambiguities on the relative role and contribution of climate change among the range of factors that affect disease transmission dynamics. However, observational studies are underway and confidence is high that climate change has contributed to the expanded range of disease vectors, including Ixodes ticks—vectors for Lyme disease.

### **Food- and Waterborne Diarrheal Disease:**

There is extensive research concerning the effects of climate change on water- and food-borne disease transmission. The current evidence base strongly supports waterborne diarrheal disease being both seasonal and sensitive to climate variability. Multiple studies associate extreme precipitation events with waterborne disease outbreaks. This evidence of responsiveness of waterborne disease to weather and climate strongly suggests that as temperatures increase and extreme precipitation events increase in frequency and severity, there will be significant impact on waterborne disease. The scientific literature modeling the projected impacts of climate change on waterborne disease is somewhat limited, however. There is therefore only medium confidence in the impact of climate change on waterborne and food-borne disease.

### **Harmful Algal Blooms:**

Because algal blooms are closely related to climate factors, projected changes in climate could affect algal blooms and lead to increases in food- and waterborne exposures and cases of illness. Algae blooms in Lake Erie caused high levels of toxins in the drinking water for Toledo, Ohio in 2014 causing a two day shut off of water for 400,000 people. Harmful algae blooms have led to beach closures off the coasts of Florida and Texas. This red tide also threatens the beaches of Louisiana, Alabama, and Mississippi. Higher ocean temperatures are also associated with presence of the bacterium *vibrio vulnificus* that blooms in the ocean in Florida (May to October). *ABC News* reported that in 2015 there were 32 cases of infection and seven deaths from this bacteria.

## Food Security:

Climate change is expected to have global impacts on food production and certain aspects of food quality. The impact of temperature extremes, changes in precipitation and elevated atmospheric CO<sub>2</sub>, and increasing competition from weeds and pests on crop plants are areas of active research. Production of U.S. wheat and other crops has declined in areas of drought. The U.S. as a whole may be less affected than some other countries. However, the most vulnerable, including those dependent on subsistence lifestyles, especially Alaska Natives and low-income populations, will confront shortages of key foods or food insecurity.

## Mental Health and Stress-Related Disorders:

Many studies have shown the impacts of mental health problems after disasters with extreme events like Hurricane Katrina, Super Storm Sandy, floods, heatwaves, and wildfires. Some people with mental illnesses are more vulnerable to heat. Suicide rates vary with weather; dementia is a risk factor for hospitalization and death during heatwaves. Medications for schizophrenia may interfere with temperature regulation or directly cause hyperthermia. Other mental health impacts include distress associated with environmental degradation, displacement, and the knowledge of climate change.

## Assessment of confidence based on evidence:<sup>1</sup>

- **Increased Ozone Exposure:** Very High confidence.
- **Allergens:** High confidence.
- **Wildfires:** Very High confidence.
- **Thermal Extremes:** Very High confidence.
- **Extreme Weather Events:** Very High confidence.

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### <sup>1</sup> Meaning of Confidence Levels

**Very High:** Strong evidence (established theory, multiple sources, consistent results, well documented and accepted methods, etc.), high consensus

**High:** Moderate evidence (several sources, some consistency, methods vary and/or documentation limited, etc.), medium consensus

**Medium:** Suggestive evidence (a few sources, limited consistency, models incomplete, methods emerging, etc.), competing schools of thought

**Low:** Inconclusive evidence (limited sources, extrapolations, inconsistent findings, poor documentation and/or methods not tested, etc.), disagreement or lack of opinions among experts



- **Vector-borne Infectious Diseases:** High or Very High confidence for shift in range of disease-carrying vectors. Medium confidence for whether human disease transmission will follow.
- **Food- and Water-borne disease:** Medium confidence.
- **Harmful Algal Blooms:** Medium confidence.
- **Food Security:** Medium confidence for food quality; High confidence for food security.
- **Threats to Mental Health:** Very High confidence for post-disaster impacts; Medium confidence for climate-induced stress.

### **Key Message 2 of 4: Most Vulnerable at Most Risk (Melillo, 2014)**

Climate change will amplify some of the existing health threats the nation now faces. Certain people and communities are especially vulnerable, including children, the elderly, the sick (people with chronic disease), the poor, and some communities of color. Together these categories total a significant percentage of the U.S. population.

Current epidemiological evidence on climate-sensitive health outcomes in the U.S. indicates that health impacts will differ substantially by location, pathway of exposure, underlying susceptibility, and adaptive capacity. The disparities in health impacts will result from differences in the distribution in the population of attributes that confer vulnerability (age, socioeconomic status, and race), attributes of place that reduce or amplify exposure (floodplain, coastal zone, and urban heat island), and the resilience of critical public health and built infrastructure.

Amplification of existing health threats, including extreme heat and heat waves, worsening air pollution and asthma, extreme rainfall and flooding, and displacement and injuries associated with extreme weather events are already substantial public health issues fueled by climate change. The projected trends under a changing climate are expected to exacerbate these health effects in the future.

Climate change will disproportionately impact low-income communities and some communities of color, raising environmental justice concerns. Existing health disparities and other inequities increase vulnerability. For example, Hurricane Katrina demonstrated how vulnerable these populations were to

extreme weather events because many low-income and of-color New Orleans residents were killed, injured, or had difficulty evacuating and recovering from the storm. Other climate change related issues that have an equity component include heat waves and air quality.

### **Children:**

Children, particularly the very young (age 0-4) and athletes who exercise outdoors, are vulnerable to heat illness during extreme heat events. Asthma and allergic disease affect almost 10% of American children, and worsening air quality puts them at risk of asthma exacerbations and hospitalization. Children are the highest risk group for Lyme disease, and are vulnerable to food and waterborne illnesses. Children also have unique vulnerabilities during extreme weather events due to their developmental immaturity and dependence on caregivers.

### **The Elderly:**

Heat stress is especially damaging to the health of people over the age of 65 who may have compromised thermoregulatory systems with decreased tendencies to sweat and experience thirst. Mobility problems can add to their vulnerability, as they may not be able to seek shelter in air-conditioned spaces. Older individuals may also be more likely to suffer from underlying chronic health conditions due to climate-sensitive increases in air pollution.

### **The Sick:**

Chronic lung disease (including asthma) and heart disease confer vulnerability in the face of heat waves, elevated ozone levels, or higher concentrations of small particle pollution resulting from wildfires, burning of biomass, or use of fossil fuels to power increased demand for air conditioning. People and communities lacking the resources to adapt or to enhance mobility to escape health-sensitive situations are at relatively high risk.

### **The Poor:**

People and communities lacking the resources to adapt or to move and escape health-threatening situations are at relatively high risk. These situations may be storms such as Hurricane Katrina, heat waves such as those that have occurred in many U.S. cities with deadly outcomes, or deterioration in air quality stemming from forest fires, heat, or increases in air or water pollutants.

### **Some Communities of Color:**

There are racial disparities in health-threatening exposures to extreme heat in urban areas, and in access to means of adaptation – for example, air conditioning use. There are also racial disparities in ability to evacuate, withstand, and recover from extreme damaging weather events.

### **Assessment of confidence based on evidence:**

Given the evidence base and remaining uncertainties, confidence that climate change will amplify existing health threats: Very High.

Among those especially vulnerable are:

- **Children:** Very High.
- **The Elderly:** Very High.
- **The Sick:** Very High.
- **The Poor:** Very High.
- **Some Communities of Color:** High.

### **Key Message 3 of 4: Prevention Provides Protection (Melillo, 2014)**

Public health actions, especially preparedness and prevention, can protect people from some of the impacts of climate change. One form of primary prevention is to reduce greenhouse gas emissions. That is why public health and medical organizations advocate for the Clean Power Plan. Primary prevention may also consist of preventing conditions associated with climate change that result in ill health. While it may not be possible to prevent rising ambient temperature, overall mitigation could limit the extent of it. Worsening air quality associated with climate change may be preventable. As the source of electric power generation converts from that derived from fossil fuels to that derived from clean renewable sources, air quality may improve dramatically, thus preventing exacerbations of chronic lung disease, asthma or cardiac symptoms. Children who are growing up with cleaner air may develop improved lung capacity and ill health may be prevented (Gauderman, 2015).

Secondary prevention is possible by reducing the worst effect of illness or unhealthy conditions. In the context of climate change, it is about reducing the adverse impact of the unhealthy conditions associated with climate change. This

is referred to as adaptation. There are many routes to secondary prevention or adaptation. Staying within cleaner indoor air conditioned locations can help those with lung conditions when heat rises and air quality deteriorates. Seeking cooling locations or staying well hydrated will help those who are vulnerable to heat because of underlying chronic conditions. Education to achieve secondary prevention can be undertaken in the clinical environment. This might also include preparations for extreme weather such as storms or floods, ranging from evacuation (if recommended by authorities), to use of generators for power, to stocking up on dry food and clean water.

Health impacts associated with climate change can be prevented through early preventive action at lower cost than dealing with them after they occur. Actions to prevent heat injury, protect the food supply, ensure clean drinking water, and protect the power grid require coordination across sectors with government involvement. Tree planting on a large scale to counteract the urban heat island effect (i.e., when cities have a higher day and nighttime temperature than the surrounding suburban and rural areas) and reduce localized ambient temperature is usually beyond the capability of an individual and requires community or government participation. Heat wave early warning systems are much less expensive than treating heat-related illnesses. Resilience of institutions and communities may be thought of as secondary prevention or adaptation to changing conditions. Regardless of terminology, this type of prevention makes sense and can reduce cost.

A number of studies have demonstrated that preventive measures such as active-transportation through biking or walking lead to public health benefits by increasing healthful physical activity and offsetting tendencies toward weight gain. When such approaches to travel are substituted for automobile transport, carbon pollution is reduced and air quality improves. Such dual advantages for people and the environment are often referred to as co-benefits. These can improve quality of life and promote health.

Overall, there is high confidence that public health actions can do much to protect people from some of the impacts of climate change, and that early action provides the largest health benefits.

The inverse relationship between the magnitude of an impact and a community's ability to adapt is well established and understood. Two extreme

events, Hurricane Katrina and the European heat wave of 2003, illustrate this relationship well as many people suffered from the lack of adaptive measures in these communities. Extreme events interact with social vulnerability to produce extreme impacts, and the increasing frequency of extreme events associated with climate change is prompting concern for impacts that may overwhelm adaptive capacity. This is equally true of the public health sector, specifically, leading to very high confidence that as threats increase, our ability to adapt to future changes may be limited.

**Assessment of confidence based on evidence:**

- **High:** Overall, given the evidence base and remaining uncertainties
- **High:** Public health actions, especially preparedness and prevention, can do much to protect people from some of the impacts of climate change. Prevention provides the most protection; but we do not as yet have a lot of post-implementation information with which to evaluate preparedness plans.
- **High:** Early action provides the largest health benefits. There is evidence that heat-health early warning systems have saved lives and money in U.S. cities like Philadelphia, PA.
- **Very High:** Our ability to adapt to future changes may be limited.

**Key Message 4:** Responses Have Multiple Benefits (Melillo, 2014)

Responding to climate change provides opportunities to improve human health and wellbeing across many sectors, including energy, agriculture, and transportation. More tree planting increases absorption of carbon dioxide and can decrease heat exposure and improve mental health and the quality of life for local residents. Transportation that relies to a greater extent on human activity, such as public transportation, walking, and biking, can help to combat the twin threats of obesity and inactivity. Walkable communities with shopping amenities closer to residential areas support this model of active living. Fresh locally grown foods require less fuel for long distance transportation (and thus less emissions) and provide access to more healthful fruits and vegetables and less fat and salt. Reducing consumption of beef and other red meats reduces emissions of methane, a potent greenhouse gas. Many of these strategies offer a variety of

benefits, protecting people while combating climate change and providing other societal benefits.

A number of studies have explored the opportunities available to improve health and well-being as a result of adapting to climate change, with many recent publications illustrating the benefit of reduced air pollution. Additionally, some studies have looked at the co-benefits to climate change and health of applying innovative urban design practices which reduce energy consumption and pollution while increasing public health, decrease vulnerability of communities to extreme events and reduce the disparity between different societal groups.

**Assessment of confidence based on evidence:**

- Given the evidence base and remaining uncertainties, confidence is Very High.

## Health and the Clean Power Plan: for Clinical Care Providers

Adapted for clinicians from:

<https://www3.epa.gov/airquality/nitrogenoxides/health.html>

### Key Points

- Climate change is a health threat in the U.S. affecting people's lives and health. We are already feeling the dangerous and costly effects of a changing climate
- Electric power generation is the largest single source of carbon pollution emitted into the atmosphere.
- In 2015, the EPA took 3 actions to reduce carbon pollution from the electric power sector, the largest source of U.S. carbon pollution
  - Addressed existing electricity sources
  - Addressed new or modified sources of electric power
  - Required that states reduce carbon output (Clean Power Plan)
- The EPA actions (stayed by the supreme court):
  - Achieve significant pollution reductions by or before 2030
  - Are implemented at the state level and gives states/utilities ample time to develop preserve reliable affordable power
  - Spur investment in clean, renewable energy
  - Require that every state solicit public input

### Climate Change Is a Health Threat in the U.S.

- Increases in heat stroke & heat-related deaths, which account for 25% of weather related mortality (CDC).
- Worsening air pollution: ground-level ozone (increases with heat) and particulate matter (increases with fires, power generation) threatens cardiorespiratory health.

- Increasing intensity of extreme events (storms, downpours, flooding) cause injuries and deaths. Hurricanes account for 25% of weather-related mortality (CDC).
- Worsening allergy problems from longer more intense pollen seasons. Increased carbon dioxide makes some pollens more allergenic (i.e. ragweed).
- Increasing range of insects that spread diseases such as Lyme disease and West Nile virus.
- Vulnerable people become more vulnerable.

### **Goal of the Clean Power Plan**

- Carbon and air pollution are already decreasing, and improving public health every year. The Clean Power Plan accelerates this momentum, putting the U.S. on pace to cut this pollution to historically low levels in the future.
- When the Clean Power Plan is fully in place in 2030, carbon pollution from the power sector will be 32 percent below 2005 levels, securing progress and making sure it continues.

### **The EPA Has Taken Legal Action**

- EPA has the legal authority to regulate greenhouse gases under the Clean Air Act.
- The EPA finding that greenhouse gas concentrations in the atmosphere endanger public health and the environment has been upheld by the courts, and the courts have also affirmed EPA's prior rules limiting greenhouse gases from cars and trucks.
- The EPA promulgated regulations in 2015 that require every state to reduce the output of carbon pollution that comes from power plants within its borders; however, this has been stayed by the Supreme Court, which means that active enforcement is on hold while the rule is considered by a lower court.
- EPA regulation of power plant mercury and air toxics pollution does not preclude EPA from regulating power plant carbon pollution.



### **Implementing the Clean Power Plan at the State Level**

- Policy makers should be urged to continue development of state plans.
- Emission reduction to be implemented at the state level may be based on various approaches. The state may choose to use energy efficiency as a strategy.
- Every state must seek public input before it finalizes its plan.
- Initial plans were due in September 6, 2016 but states may apply for an extension until September 2018. This may be changed as a result of court consideration.
- The EPA created a unique goal for each state based on the state's mix of power plants in 2012 and potential for alternatives.
- Many states were discussing plans that would enable them to collaborate with other states to trade carbon reductions (i.e., trading ready)
  - Trading-ready mechanisms allow states or powerplants to use creditable, out-of-state reductions to meet goals. This eases administrative burdens and reduces the cost to consumers and utilities. Examples of successful trading exist in several regional greenhouse-trading systems around the country that have reduced carbon dioxide output, generated revenue for building resilience, and saved money for consumers.<sup>2</sup>

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<sup>2</sup> The Regional Greenhouse Gas Initiative on the East Coast and the California System created by state legislation AB 32 are two examples.

## **Incentives for Clean Renewable Power**

- EPA is providing the Clean Energy Incentive Program (CEIP) to incentivize early investments that generate wind and solar power or reduce end-use energy demand during 2020 and 2021
- The CEIP is an optional, “matching fund” program states may choose to use to incentivize early investments in wind or solar power, as well as demand-side energy efficiency measures that are implemented in low-income communities
- The CEIP will help ensure that momentum to no-carbon energy continues and give states a jumpstart on their compliance programs

## **Better Air Due to the Clean Power Plan**

- By 2030, emissions of SO<sub>2</sub> from power plants will be 90% lower compared to 2005 levels
- Emissions of NO<sub>x</sub> will be 72% lower.
  - Because these pollutants can create dangerous soot and smog, the historically low levels mean we will avoid thousands of premature deaths and have thousands fewer asthma attacks and hospitalizations in 2030 and every year beyond.
- Expected reductions in mercury pollution, coal ash disposal, coal mining will also markedly reduce health threats.

## **Annual Health Benefits of the Clean Power Plan by 2030<sup>3</sup>**

### **[Due only to Decrease in Ozone and Particle Pollution]**

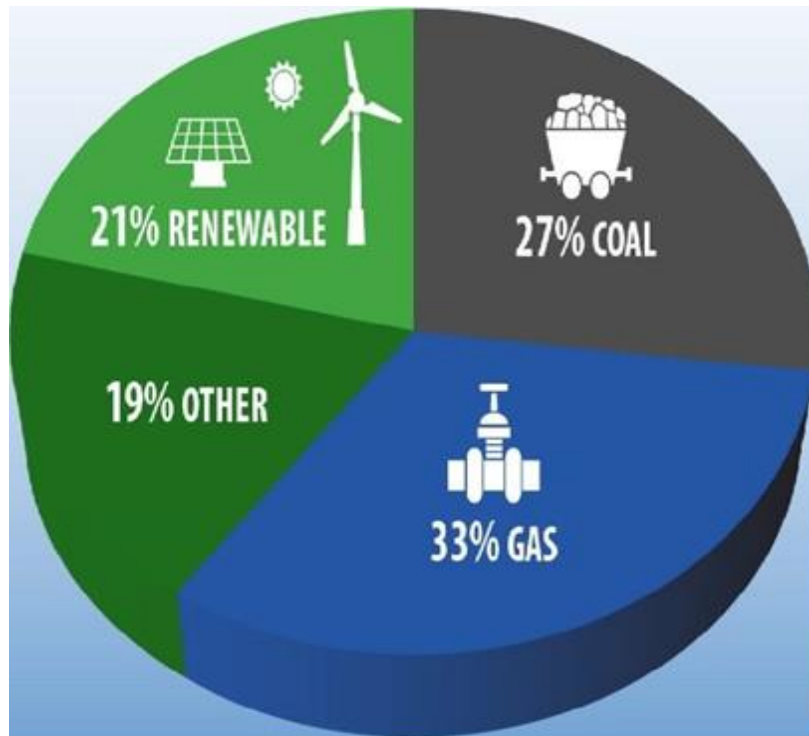
- 1,500-3,600 premature deaths
- 90,000 asthma attacks in children
- 180-1,700 heart attacks
- 1,700 hospital admissions
- 300,000 missed school and work days

**The Total Value of These Benefits is \$34-54 billion**

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<sup>3</sup> Estimates calculated by the EPA. Reference page contains resources regarding reduction of other pollutants.

## The EPA Anticipates the Following Energy Mix in 2030<sup>4</sup>



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<sup>4</sup> EPA estimates that the entire pie could shrink by 7% due to greater energy efficiency. Some forecasts are for higher percentages of renewables; some states have already far surpassed the renewables piece of the pie depicted above.

## **Nuclear power: Not a Healthy or Safe Option**

### **Threats from Radiation Exposure**

Radiation exposure threats<sup>1</sup> include cancers of many types, immune system suppression, birth defects, miscarriage, cataracts, and mental health disorders, to name only a few. Ingested radionuclides: Uranium- 237 can cause kidney disease; cesium-127 can harm muscle tissue, potentially causing cardiac disease.

Nuclear reactors have an operational history of disasters and close calls, including Fukushima Daiichi (Japan), Chernobyl (Ukraine) and Three Mile Island (U.S.). In Japan, over 110,000 people were forced off their land with only modest compensation. Estimates are as high as \$250-500 billion for total costs, with cleanup anticipated to take decades.<sup>2</sup> An estimated 220,000 people were forced to leave their homes and may not return, after the meltdown and explosion at Chernobyl, and the radioactive fallout from the accident made 11,260 square kilometers of agricultural land and forests in Belarus and Ukraine unusable and uninhabitable.<sup>3</sup>

### **Nuclear Waste: no permanent plan**

Each year, the U.S. nuclear reactors create 2,000 metric tons of high-level radioactive waste and 12 million cubic feet of low-level radioactive waste.<sup>4</sup> Each individual reactor produces on average 25–30 metric tons of spent fuel a year. About 65,000 metric tons of highly radioactive spent fuel already have accumulated at U.S. reactor sites. Plans for the only proposed permanent U.S. repository site, Yucca Mountain in Nevada, have been cancelled, as it could not safely contain the radioactivity and protect the public. Even if Yucca Mountain were to open, by 2010, the U.S. had already created enough spent fuel to fill up the costly site.<sup>5</sup> No other alternative sites exist.

1. Centers for Disease Control and Prevention. Acute Radiation Syndrome: A Fact Sheet for Physicians. <http://www.bt.cdc.gov/radiation/pdf/arsphysicianfactsheet.pdf>

2. Costs and Consequences of Fukushima Daichi, Steven Starr. bit.ly/1s30HrE

3. Chornobyl.info. “Overview of health consequences”. Swiss Agency for Development and Cooperation.

<http://www.Chornobyl.info/index.php?userhash=10786534&navID=21&IID=2#Sources>

4. Statement of Michael Hertz, Deputy Assistant Attorney General Civil Division before Blue Ribbon Commission on America’s Nuclear Future (February 2, 2011).

5. Mark Holt, Congressional Research Service, “Nuclear Waste Policy: How We Got Here” before the Blue Ribbon Commission on America’s Nuclear Future (March 25, 2010)

## Model Letter #1 to Policymakers on the State Clean Power Plan

Title First Name Last Name

Address 1

Address 2

City, State Zip

Date

Dear Title Last Name,

I am writing to express my support for reducing carbon pollution in our state through developing a highly effective state Clean Power Plan that contributes greatly to the health of *[name your state]* residents. Currently, electric power production is the largest single source of carbon pollution in the air.

As a *[physician/ nurse/health professional]*, I recognize the importance of clean air to ensure and protect healthy growth and development of children and support cardiorespiratory health throughout the life cycle. All of our citizens need access to clean air, but many are breathing unhealthy air on too many days. The increase in annual temperatures (resulting from climate change) poses a particular risk to clean air. People with chronic lung disease (e.g., asthma and COPD), representing 10-20% of the population or more, have greater difficulty breathing under these conditions. Very young children, the elderly, and lower-income and/or vulnerable individuals also face greater direct risk from the heat itself. Increases in pollen levels generated by longer plant growing seasons are stressing many people with lung conditions and causing more symptoms for the 30% of the population who have hay fever. This causes more reliance on medications, less productivity in the workplace, more absenteeism in schools, and more medical visits for many.

I urge you to continue to develop *[insert state]*'s plan to comply with the Clean Power Plan's standards. The Clean Power Plan's requirement that states reduce carbon pollution provides an opportunity to address these situations, reduce

immediate risks, and protect the health of state residents into the future. Reducing dependence on coal-fired power plants will bring immediate health benefits by reducing other dangerous air pollutants emitted by coal combustion, such as toxic metals, nitrogen oxides, sulfur dioxide and particulate matter. In contrast, energy derived from clean renewable sources is the healthiest way to generate power. The Clean Power Plan offers incentives to expand the renewable sector in our state that we should use to the greatest extent possible. Improved efficiency of electric energy production is a safe and effective way to generate more electricity with less carbon pollution. In addition, adapting our homes, offices, and industries to be highly energy-efficient will allow us to make the most of the electricity that is generated. These are common-sense approaches that I believe we must use to the maximum extent possible.

The flexible approach provided to states by the Clean Power Plan is an opportunity to customize our energy portfolio, expand clean energy solutions for better health, build new industries and generate good jobs in the state. I support timely finalization of our state implementation plan and offer my support for *[specify types of clean energy that could best be applied in your state: solar power, wind energy, geothermal energy]* and energy efficiency solutions. Thank you for your leadership.

Sincerely,

Note: This handout is useful to give to policymakers at the time of a visit

## **Cool Climate and Clean Air are Health Imperatives:**

### **The Perspective from Health Professionals**

#### **A cool, livable climate and clean air are essential to health.**

Human health is put at risk by the extremes associated with climate change. Heat waves are already the leading cause of weather-related deaths in the U.S. Flooding, drought, wildfires, expanded disease ranges, and damage to food crops, water resources and health infrastructure endanger health. Everyone needs clean air to breathe – yet many Americans live where air pollutants from coal-burning power plants make them sick, miss days from work/school, and contributing to premature deaths.

**As health professionals, we endorse policies that reduce air pollutants and climate change.**

#### **The Clean Power Plan will tackle a major threat to the nation's health: climate change.**

Burning fossil fuels produces heat-trapping gases which contribute to increased temperatures and climate change. Reducing carbon pollution through the Clean Power Plan is a significant and feasible step to help protect state residents from heat waves, extreme weather, infectious diseases, and other climate change-induced outcomes. By transitioning from coal to clean energy, we can cut carbon pollution at the source.

#### **Cutting carbon pollution will reduce other pollutants to protect health.**

Coal-fired power plants emit pollutants that contribute to diseases and premature death: sulfur dioxide (permanent lung damage), nitrogen oxides (lung damage, ground-level ozone precursor), mercury (known brain toxin), and fine-particulate pollution (heart disease, respiratory disease, cancer). As we replace coal plants with clean renewable energy through the Clean Power Plan, every \$1 invested can generate up to \$4 in health benefits. By 2030, the Clean Power will prevent up to 3,600 premature deaths, 1,700 heart attacks, 90,000 asthma attacks and 300,000 missed work and school days each year. These protections will benefit communities throughout our state.

#### **Clean Power Plan supports state-based initiative and economic development.**

The Clean Power Plan is a flexible approach, allowing states to write their own plans for reducing carbon emissions. When we invest in clean, carbon-free options like solar and wind energy plus energy efficiency, we provide healthy, well-paid jobs located here.

**We need to implement America's CLEAN POWER PLAN to create immediate health benefits by reducing soot- and smog-causing pollution. It will reduce heat-trapping gases and help limit climate change. Health professionals strongly support this opportunity to protect our citizens' health.**

**INSERT YOUR ORGANIZATION'S NAME & CONTACT INFORMATION.**



## Communications and Messaging in Brief

<b>Problem:</b> Burning dirty fossil fuels is polluting our air and our water, and dangerously destabilizing our climate. Air pollution, water pollution and climate change are harming our health now – through asthma, lung and heart disease, heat waves, violent storms, droughts, wildfires, and infectious diseases. It will worsen if we don't take effective steps to <u>protect</u> ourselves.	<b>So what?</b> Anyone and everyone's health can be harmed by climate change. But the people whose health is likely to be hurt first, and worst, are our nation's infants and children, older adults, people who already have a chronic health condition, people who work outdoors, and the poorest Americans.
<b>Issue:</b> More than 97% of climate scientists have concluded that human-caused climate change is happening, and research has proven that it is already harming the health of many of us. As a health professional, I have a <u>duty to protect</u> people from further harm by taking steps to address climate change.	
<b>Benefits?</b> The sooner we take steps to <u>protect</u> ourselves, the sooner every U.S. family, community and business will benefit from cleaner air & water, better health, lower health care costs, and stronger communities.  A useful way to think about it: What's good for our climate is good for our health, and what's good for our health is good for our climate.	<b>Solutions?</b> The two most important steps we can take are to stop needlessly wasting energy, and to replace dirty fuels – especially coal – with clean renewable fuels like solar, wind and geothermal. Every American family, community, business, and state can take these steps – or at least support them.  <u>Protecting</u> ourselves from the health effects of climate change is the right thing to do – and the smart thing to do.

## Climate Health Impacts and Solutions Climate Nexus/George Mason

## IMPACTS:

- **Evidence:** In a [landmark survey](#) from the National Medical Association (NMA) found that 88% of NMA physicians think climate change is relevant to direct patient care, and almost two-thirds of doctors said their own patients' health has been affected by climate change.<sup>5</sup>
- **Heat-Related Illness:** Heat is already the [leading cause](#) of direct weather-related deaths in the United States, and the average number of heat-related fatalities will continue to rise, especially among vulnerable populations like the poor and elderly.<sup>6</sup>
- **Heart Disease:** Climate change is strongly linked to heart-related diseases, which have been found to rise in tandem with [extreme heat](#), increasing levels of [ground-level ozone](#), [particulate matter from coal burning power plants](#), and [stress and anxiety](#) brought on by extreme weather events.<sup>7,8,9,10</sup>
- **Asthma:** High levels of [ground-level ozone](#), are [strongly linked to a rise](#) in asthma attacks.<sup>11,12</sup>
- **Allergies:** Allergies, which affect 10 to 30% of people worldwide, are also getting worse as the climate continues changing and emissions continue to rise. Last month, a study found that air pollution makes pollen [more potent](#); studies also show that warming is contributing to an [earlier and longer pollen season](#) and rising carbon dioxide in the atmosphere results in [more pollen per plant](#).<sup>13,14,15</sup>

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<sup>5</sup> Center for Climate Change Communication <http://goo.gl/i4S3Jj>. Accessed March 26, 2016.

<sup>6</sup> National Oceanic & Atmospheric Administration. <http://www.nws.noaa.gov/os/hazstats.shtml> Accessed March 26, 2016.

<sup>7</sup> Ambient Temperature & Biomarkers of Heart Failure: A Repeated Measures Analysis. National Library of Medicine. <http://goo.gl/nJagnZ>. Accessed March 26, 2015.

<sup>8</sup> Research Brief: Ozone linked to heart disease deaths (Am J of Respiratory Critical Care Medicine.) <http://news.berkeley.edu/2013/09/05/ozone-heart-disease-deaths/> Accessed March 26, 2016

<sup>9</sup> Air Pollution, Climate and Heart Disease. *American Heart Association*. <http://circ.ahajournals.org/content/128/21/e411.full> Accessed March 26, 2016

<sup>10</sup> National Institute of Environmental Health Sciences. <http://goo.gl/NxOF7F> [http://www.niehs.nih.gov/research/programs/geh/climatechange/health\\_impacts/cardiovascular\\_diseases/index.cfm](http://www.niehs.nih.gov/research/programs/geh/climatechange/health_impacts/cardiovascular_diseases/index.cfm) Accessed March 26, 2016

<sup>11</sup> Environmental Protection Agency: Ozone Pollution <https://www.epa.gov/ozone-pollution> Accessed March 28, 2016

<sup>12</sup> Modeling of Regional Climate Change Effects on Ground-Level Ozone and Childhood Asthma. *Am J Prev Med*. 2011 Sep; 41(3): 251–257. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3160600/> Accessed March 28, 2016

<sup>13</sup> Air pollutants could boost potency of common airborne allergens. <https://www.sciencedaily.com/releases/2015/03/150322080208.htm> Accessed March 28, 2016

- **Aggression:** A [recent meta-analysis](#) found that the results of 56 separate studies link climate change to a rise in violence and aggression, with an expected 20% rise in conflict in Africa for every increase of 1°C. A study [linked the civil war in Syria](#) to an extreme drought driven by human-caused climate change.<sup>16,17</sup>
- **Suicide:** A 2012 study that looked at suicide over 37 years in Australia found that an increase in suicide among rural men was [strongly correlated](#) to a rising drought index—findings that were echoed earlier this year in [skyrocketing suicide rates](#) in drought-stricken states in India.<sup>18,19</sup>
- **Post-Traumatic Stress Disorder (PTSD):** Communities affected by [wildfires](#), [tsunamis](#), [hurricanes](#), or other disasters experience high rates of PTSD and other psychopathologies, case studies show, especially in those more directly exposed to the threat.<sup>20,21, 22</sup>

### Infectious Diseases

- **Lyme Disease:** The number of reported cases of Lyme disease in the United States has [doubled since 1991](#), partly because warming temperatures facilitate the spread

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<sup>14</sup> Possible role of climate changes in variations in pollen seasons and allergic sensitizations during 27 years. *Ann Allergy Asthma Immunol.* 2010 Mar;104(3):215-22.

<http://www.ncbi.nlm.nih.gov/pubmed/20377111> Accessed March 28, 2016

<sup>15</sup> Rising CO<sub>2</sub> and pollen production of common ragweed (*Ambrosia artemisiifolia* L.), a known allergy-inducing species: implications for public health. *Australian Journal of Plant Physiology*

<http://www.publish.csiro.au/?paper=PP00032> Accessed March 28, 2016

<sup>16</sup> Climate and Conflict. NBER Working Paper No. 20598 <http://www.nber.org/papers/w20598> Accessed March 28, 2016

<sup>17</sup> Climate Change a ‘Contributing Factor’ in Syrian Conflict.

<http://www.climatecentral.org/news/climate-change-contributing-factor-syrian-conflict-18718> Accessed March 28, 2016

<sup>18</sup> Suicide and drought in New South Wales, Australia, 1970–2007.

<http://www.pnas.org/content/109/35/13950.short> Accessed March 28, 2016

<sup>19</sup> In worst drought year, Marathwada emerges new suicide region.

<http://indianexpress.com/article/cities/mumbai/in-worst-drought-year-marathwada-emerges-new-suicide-region/> Accessed March 28, 2016

<sup>20</sup> Posttraumatic stress disorder and general psychopathology in children and adolescents. *Can J Psychiatry.* 2005 Mar;50(3):137-43. <http://www.ncbi.nlm.nih.gov/pubmed/15830823> Accessed March 28, 2016

<sup>21</sup> Post-traumatic stress disorder in children after the tsunami disaster in Thailand: a 5-year follow-up. *J Med Assoc Thai.* 2011 Aug;94 Suppl 3:S138-44.

<http://www.ncbi.nlm.nih.gov/pubmed/22043767>. Accessed March 28, 2016

<sup>22</sup> The Impact of Hurricane Katrina on the Mental and Physical Health of Low-Income Parents in New Orleans. *Am J Orthopsychiatry.* 2010 Apr; 80(2): 237–247.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3276074/> Accessed March 28, 2016

of the ticks that carry the disease. Deer ticks [prefer conditions](#) with temperatures above 45°F and humidity over 85%, and many parts of the U.S. are expected to get warmer (and some wetter) as climate change continues.<sup>23, 24</sup>

- **Mosquito-Borne Diseases:** [Malaria](#) and [dengue fever](#) are two examples of diseases transmitted by mosquitoes that are on the rise as temperatures warm. Floods can also [increase the incidence](#) of mosquito-borne illnesses, as mosquitoes depend on standing water for breeding.<sup>25, 26, 27</sup>
- **Waterborne Parasitic Diseases:** [Cholera](#), giardia, and other diarrheal illnesses are expected to [pose a greater threat](#) to humans as temperatures warm. Both increased drought and rain can challenge the capabilities of water filtration plants and create more standing water, which both expose people to higher levels of disease.<sup>28, 29</sup>

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<sup>23</sup> Climate Change Indicators in the United States. EPA.

<http://www.epa.gov/climatechange/science/indicators/health-society/lyme.html> Accessed March 28, 2016

<sup>24</sup> What Makes Ticks Tick? Climate Change, Ticks, and Tick-Borne Diseases. *Journal of Travel Medicine*. <http://onlinelibrary.wiley.com/doi/10.1111/j.1708-8305.2007.00176.x/abstract> Accessed March 28, 2016

<sup>25</sup> Downscaling reveals diverse effects of anthropogenic climate warming on the potential for local environments to support malaria transmission. *Climate Change*. <http://link.springer.com/article/10.1007%2Fs10584-014-1172-6> Accessed March 28, 2016

<sup>26</sup> Vulnerability to Dengue Virus: First Global Maps Published by UN University <http://inweh.unu.edu/mapping-dengue-virus/> Accessed March 28, 2016

<sup>27</sup> Vector-Borne Diseases: Understanding the Environmental, Human Health, and Ecological Connections. Institute of Medicine (US) Forum on Microbial Threats. Washington (DC): National Academies Press (US); 2008 <http://www.ncbi.nlm.nih.gov/books/NBK52939/> Accessed March 28, 2016

<sup>28</sup> Cholera and Climate: A Demonstrated Relationship. *Trans Am Clin Climatol Assoc*. 2009; 120: 119–128. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2744514/> Accessed March 28, 2016

<sup>29</sup> NIH: Waterborne Diseases Health Impacts of Climate Change. [http://www.niehs.nih.gov/research/programs/geh/climatechange/health\\_impacts/waterborne\\_diseases/](http://www.niehs.nih.gov/research/programs/geh/climatechange/health_impacts/waterborne_diseases/) Accessed March 28, 2016

## Extreme Weather

- Extreme weather events can contribute to global war, conflict, and migration. For example, a persistent and extreme drought that has been linked to human-caused climate change destabilized Syria and contributed to the ongoing civil conflict and humanitarian disaster. ([Source: PNAS](#))<sup>30</sup>
- Sea level rise and flooding are affecting millions of people around the world. In the Sundarbans, a group of islands off the coast of Bangladesh, sea level rise and saltwater intrusion are threatening the livelihood and health of [over ten million people](#).<sup>31</sup>
- Climate-related disasters include storms, floods, extreme temperatures, drought and wildfires. From 1994 to 2013, the US was affected by more climate-related disasters than any other country, and in 2014, 87% of all disasters worldwide were related to climatological processes. In total, the frequency of global climate-related disasters has [doubled since the 1980s](#).<sup>32</sup>
- Between 1994 and 2013, floods accounted for 43% of all recorded disasters and affected [nearly 2.5 billion people](#). In 2014, hydrological disasters like floods and landslides were responsible for 71% of disaster-related deaths worldwide.<sup>33</sup>
- More than [one billion people](#) were affected by droughts over the past twenty years. Droughts contribute to malnutrition, disease, and displacement, so direct deaths from drought are harder to quantify.<sup>34</sup>

## Global instability

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<sup>30</sup> Climate change in the Fertile Crescent and implications of the recent Syrian drought. *PNAS*. <http://www.pnas.org/content/112/11/3241.abstract> Accessed March 28, 2016

<sup>31</sup> Building Resilience for Sustainable Development of the Sundarbans through Estuary Management, Poverty Reduction, and Biodiversity Conservation: Strategy Report <https://openknowledge.worldbank.org/bitstream/handle/10986/20116/880610REVISED00ns000Strategy0Report.pdf?sequence=1> Accessed March 28, 2016

<sup>32</sup> The Human Cost of Natural Disasters (2015): A global perspective. Centre for Research on the Epidemiology of Disasters (CRED) [http://reliefweb.int/sites/reliefweb.int/files/resources/PAND\\_report.pdf](http://reliefweb.int/sites/reliefweb.int/files/resources/PAND_report.pdf) Accessed March 28, 2016

<sup>33</sup> The Human Cost of Natural Disasters (2015): A global perspective. Centre for Research on the Epidemiology of Disasters (CRED) [http://reliefweb.int/sites/reliefweb.int/files/resources/PAND\\_report.pdf](http://reliefweb.int/sites/reliefweb.int/files/resources/PAND_report.pdf) Accessed March 28, 2016

<sup>34</sup> The Human Cost of Natural Disasters (2015): A global perspective. Centre for Research on the Epidemiology of Disasters (CRED) [http://reliefweb.int/sites/reliefweb.int/files/resources/PAND\\_report.pdf](http://reliefweb.int/sites/reliefweb.int/files/resources/PAND_report.pdf) Accessed March 28, 2016

- Extreme weather events can contribute to global war, conflict, and migration. For example, a persistent and extreme drought that has been linked to human-caused climate change destabilized Syria and [contributed to the ongoing civil conflict](#) and resulting humanitarian disaster. Sea level rise and flooding are affecting millions of people around the world. In the Sundarbans, a group of islands off the coast of Bangladesh, sea level rise and saltwater intrusion are threatening the livelihood and health of [over ten million people](#).<sup>35, 36</sup>

**Solutions:** The two most important steps we can take are to stop needlessly wasting energy, and to replace dirty fuels – especially coal – with clean renewable fuels like solar, wind and geothermal. Every American family, community, business, and state can take these steps – or at least support them. Protecting ourselves from the health effects of climate change is the right thing to do – and the smart thing to do.

[Every/Our] state should be taking the opportunity to protect our citizens' health by replacing fossil fuels with clean renewable energy and energy efficiency. Protecting ourselves from the health effects of climate change is the right thing to do—and the smart thing to do.

### Benefits

- The sooner we take steps to protect ourselves, the sooner every U.S. family, community and business will benefit from cleaner air & water, better health, lower health care costs, and stronger communities.
- A useful way to think about it: What's good for our climate is good for our health, and what's good for our health is good for our climate

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<sup>35</sup> Climate change in the Fertile Crescent and implications of the recent Syrian drought. *PNAS*. <http://www.pnas.org/content/112/11/3241.abstract> Accessed March 28, 2016

<sup>36</sup> Building Resilience for Sustainable Development of the Sundarbans through Estuary Management, Poverty Reduction, and Biodiversity Conservation: Strategy Report <https://openknowledge.worldbank.org/bitstream/handle/10986/20116/880610REVISED00ns000Strategy0Report.pdf?sequence=1> Accessed March 28, 2016

## Dates of Public Sessions in Selected States

[For information on timelines in any state, visit the website of the Department of Environmental Quality or Natural Resources; search for “Clean Power Plan.”]

Key: *Assessing Planning* (plan on hold) vs. *Proceeding with Planning*  
vs. *Suspended Planning*

### **Arizona** (*Assessing Planning*)

Arizona Department of Environmental Quality, Room 3175  
1110 West Washington Street, Phoenix, 85007  
Phone participants: call 1-877-820-7829/passcode 228497#

(Please note the April 5, 2016 meeting has been canceled.)  
Tuesday, June 14, 2016 9:30-11:30 a.m.  
Tuesday, September 6, 2016 9:30-11:30 a.m.  
Tuesday, December 6, 2016 9:30-11:30 a.m.

To find more information on Clean Power Plan Stakeholder meetings go to:  
<https://www.azdeq.gov/envIRON/air/phasethree.html>

### **Arkansas** (*Suspended Planning*)

On February 9, 2016, the Supreme Court of the United States issued an order staying the EPA’s Clean Power Plan (CPP). As a result, the Arkansas Department of Environmental Quality and Arkansas Public Service Commission (the Agencies) will not hold the CPP Stakeholder meeting previously planned for March 2016.

### **California** (*Proceeding with Planning*)

The State of California is beginning to draft its plan to comply with the Clean Power Plan and has begun engaging with stakeholders. California’s Air Resources Board (ARB) is leading the state’s efforts to develop its plan. ARB maintains a website with information and the ability to sign up for an email listserv to be alerted to future public meetings/workshops. <http://www.arb.ca.gov/cc/powerplants/powerplants.htm>

The most recent workshop was December 14, 2015. However, the comment period for the December 14th workshop is now closed. There will be additional workshops and opportunities for public comments on the plan approach. A date has not been announced for the next workshop.

Here is the link to sign up for the Listserv:

[http://www.arb.ca.gov/listserv/listserv\\_ind.php?listname=cc](http://www.arb.ca.gov/listserv/listserv_ind.php?listname=cc) This listserv (as well as the website) is used to announce all upcoming meeting and notice of material availability.

**Colorado** (*Proceeding with Planning*)

Colorado statement regarding the Supreme Court decision can be found here:

<https://www.colorado.gov/pacific/cdphe/news/clean-power-plan>

Upcoming meetings:

March 2016

Pueblo, CO (Postponed)

Potential Focus: Trading, allowances, set asides, emission reduction credits, and other mechanisms needed to comply

April 2016

Craig, CO (Details Pending)

Potential Focus: Costs, demand growth and reliability

**Florida** (*Assessing Planning*)

No listening sessions have been scheduled. The Florida Department of Environmental Protection is reviewing the Final Rule, released in August 2015 and published in the Federal Register on October 23, 2015. Once its review is complete, the Department will begin work on a status report for submittal to EPA in September 2016. A final plan is due in September of 2018. The Department is still considering all compliance options.

**Illinois** (*Proceeding with Planning*)

Not yet scheduled

**Iowa** (*Assessing Planning*)

For information about past meetings please go to:

<http://www.iowadnr.gov/Environmental-Protection/Air-Quality/Greenhouse-Gas-Emissions/Carbon-Pollution-Stnds-111d>

**Minnesota** (*Proceeding with Planning*)

Not scheduled yet

A series of listening sessions are planned throughout Minnesota, but the team is still working to book dates and venues. The best resource for staying informed when we do is GovDelivery list



([https://public.govdelivery.com/accounts/MNPCA/subscriber/new?topic\\_id=MNPCA\\_234](https://public.govdelivery.com/accounts/MNPCA/subscriber/new?topic_id=MNPCA_234))—if you sign up to receive bulletins on the Clean Power Plan topic, you'll be notified as soon as they post the meeting schedule and any other developments.

**Missouri** (*Assessing Planning*)

Not scheduled yet

The Missouri Department of Natural Resources' has held two public stakeholder meeting since the final Clean Power Plan rule was signed by EPA. Information about those two meetings can be found on the Department's Clean Power Plan webpage: <http://dnr.mo.gov/env/apcp/cpp/index.html>

The Department is planning to continue conducting outreach for the Clean Power Plan and intends to hold additional stakeholder meetings. They are working to develop a schedule for the stakeholder meetings and once developed, they will be posted on the Department's Clean Power Plan webpage.

**Montana** (*Suspended Planning*)

The 111d Subcommittee will not meet March 10. On Feb. 9, the U.S. Supreme Court granted a stay of the U.S. Environmental Protection Agency's Clean Power Plan until the U.S. Court of Appeals for the D.C. Circuit rules on the CPP's legality. Subcommittee Chairman Senator Keane and Vice-Chairman Representative Keith Regier agreed that the subcommittee's work should be on-hold until a decision is made by the courts. For more information go to: <http://www.leg.mt.gov/css/Committees/Interim/2015-2016/EQC/111d-Subcom/default.asp>

**Nevada** (*Suspended Planning*)

No additional meetings are scheduled.

NDEP will accept written comments on Nevada's planning and implementation of the Clean Power Plan through the plan development period. Email comments to [NVCPP@ndep.nv.gov](mailto:NVCPP@ndep.nv.gov). You may also submit comments by mail to the Carson City office at:

NVCPP Comments

NDEP BAQP

901 S. Stewart St., Suite 4001  
Carson City, NV 89701

**New Mexico** (*Assessing Planning*)

Up-to-date information on these meetings and the New Mexico's response to the Clean Power Plan is available online at <https://www.env.nm.gov/aqb/CPP.htm>.

The public involvement meeting series (<https://www.env.nm.gov/aqb/CPublicOutreach.htm>) was intended to provide opportunity for questions and public comment regarding New Mexico's State Plan development. For further questions or comments regarding the Clean Power Plan and New Mexico's compliance planning efforts, email NMENV-NMCP@state.nm.us or call (505) 476-4300. For email announcements, sign up for email alerts: <https://public.govdelivery.com/accounts/NMED/subscriber/new>

**Ohio** (*Assessing Planning*)

Not scheduled yet

Regional Listening Sessions will be held in early 2016

They are looking at early to mid-March for listening sessions. In the meantime, you can see what Ohio's working on in regards to the Clean Power Plan here: <http://www.epa.ohio.gov/dapc/111drule.aspx>

**Pennsylvania – process completed**

The 14 listening sessions for the Clean Power Plan began on September 15th and concluded on November 4th. The public comment period closed on November 12, 2015. You can view the submitted comments on the website: [www.ahs.dep.pa.gov/eComment/ViewComments.aspx?enc=8YWleHIdijzUAFiG53EkjflnP%2fXgFr0fA3HnfGi1I5Y%3d](http://www.ahs.dep.pa.gov/eComment/ViewComments.aspx?enc=8YWleHIdijzUAFiG53EkjflnP%2fXgFr0fA3HnfGi1I5Y%3d)

**South Carolina** (*Assessing Planning*)

Several public engagement sessions have taken place throughout the state to provide information on the final rule and future opportunities. Comment period closed December 2014.

For more information go to: <http://www.scdhec.gov/HomeAndEnvironment/Air/cleanpower/>

## **Tennessee** (*Assessing Planning*)

TDEC had planned to host public education and listening sessions regarding the Clean Power Plan and its implementation in Tennessee at a number of locations across the state in Spring 2016. However, in light of the U.S. Supreme Court decision to stay the rule and in an effort to utilize state resources efficiently, TDEC is postponing these public education and listening sessions until a later date. Dates, times, and locations of any future sessions will be posted on this page. In the interim, TDEC encourages the submission of comments via the Clean Power Plan Comments page. - See more at:

<http://www.tn.gov/environment/article/policy-clean-power-plan-public-participation#sthash.Ofi4eLNC.dpuf>

## **Virginia – process completed**

Listening sessions were conducted in September & October of 2015

<http://www.deq.virginia.gov/Portals/0/DEQ/Air/Planning/listening%20session%20notice.pdf>

Written comments were accepted from August 13 to October 13, 2015.

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