

# Chicago Clean Power Coalition



## Overview

### Why Adopt a Clean Power Ordinance?

Protecting public health and welfare is a fundamental responsibility of government. Yet each year, two coal plants within the city limits of Chicago emit thousands of tons of harmful air pollutants, including mercury, nitrogen oxides, greenhouse gases, sulfur dioxide and particulates. Many of these pollutants directly affect the health of city residents. According to one study by a Harvard University researcher they are responsible for 41 additional deaths, 500 emergency room visits and 2800 asthma attacks each year. The Fisk power plant, located in the Pilsen neighborhood of Chicago, and the Crawford Power Plant, in Little Village, were both built long before current air quality laws came into effect. Although they have seen improvements over the years, they do not use the best available technology to minimize air pollution, since they have been “grandfathered” under existing federal law.

The population densities surrounding the Fisk and Crawford power plants are higher than for any other power plants in the U.S. The costs of their pollution are borne by all Chicago residents in the form of millions of dollars spent each year due to health care, absenteeism from work and school, as well as reduced productivity.

State and federal laws have so far failed to fully curb the negative effects of these facilities, especially with respect to the harmful emissions of particulate matter and greenhouse gases. At best it will be years before current lawsuits and regulatory agreements will bring meaningful improvements; too long with the health of our citizens and our planet at stake. New understanding of the effect of power-plant emissions on human health and a growing concern over rapidly changing climate demand a more immediate response.

### What's Proposed?

Alderman Joe Moore (49th Ward) plans to introduce an ordinance to the City Council that will require that Fisk and Crawford to reduce their emissions of particulates and carbon dioxide. Technology is readily available to meet the requirements of the ordinance and this measure is consistent with the City's newly approved Climate Action Plan and green jobs initiatives designed to make Chicago a green city of the future. Restrictions on the emission of particulates and carbon will be phased in to allow adequate time for adaptation, should the mandated improvements require the reduction, retraining or reassignment of personnel. By supporting the Clean Power Ordinance, Chicago residents can help make our city a safer place in which to live, work and raise their families; one that is truly leading the way as a green city.

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## Briefing Paper

### Did You Know...

Chicago ranks second among U.S. cities adversely affected by power plant pollution. This is because there are two old, outdated coal-fired power plants in Chicago's Pilsen and Little Village neighborhoods. In the last three years alone, these plants combined have spewed over 45,000 tons of pollution into the air we breathe, compromising the health of all Chicagoans. <sup>1</sup>

The Fisk Power Plant in Pilsen was originally built in 1903 and its current generating station dates to 1959. The Crawford Power Plant, located in Little Village, was built in 1924. Its two generating stations date to 1958 and 1961. Both plants were built long before modern air quality regulations existed.

The **Clean Power Ordinance** introduced by Alderman Moore will clean up emissions from these plants, improving the health and quality of life for all, but especially those who live in the shadow of these plants.

### Emissions Are Making Us Sick

#### **Fisk and Crawford are degrading Chicago's air quality:**

Particulate matter emitted from the Fisk and Crawford coal-fired power plants degrades the air quality of the entire city of Chicago. It impairs visibility and adversely affects the health of Chicago residents, contributing to lung cancer, heart attacks, premature deaths, acute and chronic bronchitis, emergency room visits, asthma and other respiratory illnesses.

Studies published in the American Journal of Epidemiology in 2000, and the New England Journal of Medicine in 2009, have shown that exposure to airborne particulate matter contributes to cardiopulmonary disease mortality even at relatively low concentrations. These same studies have shown that there are mortalities and health effects at every level of exposure. This means all residents of Chicago are affected.

#### **These plants are compromising public health, safety and welfare in Chicago:**

Chicago has one of the highest asthma rates in the country.<sup>2</sup> An estimated 318,000 adults and 122,000 children in Cook County have been diagnosed with asthma. Our asthma hospitalization rate is nearly double the national average.<sup>3 4</sup> Actual asthma rates may be far higher among the two million children who reside within a 30-mile radius of Fisk and Crawford.

In 2001, a study conducted by researchers from the Harvard School of Public Health reported that each year the emissions from the Fisk and Crawford power plants were responsible for up to 41 additional deaths, 500 emergency room visits and 2800 asthma attacks.<sup>5</sup> The health effects from exposure to air pollutants also have social and financial costs through demands on the health care system and lost days of work and school.

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## **This is a Classic Call for Environmental Justice**

**Chicago has the highest concentration of people living near coal plants in the nation -** More people live near Fisk than near any other power plant in the U.S. Crawford is second worst. The population density surrounding Fisk alone is nearly twice that of the third-ranked plant.<sup>6</sup>

**Communities living next to these plants are among the most marginalized -** Over 83% of Chicago's residents living within three miles of the Fisk and Crawford plants are non-white. No other coal-fired power plant currently operating in the U.S. has a higher percentage of minority residents within three miles.<sup>7</sup>

### **They also are among the most economically disadvantaged:**

Those who are most vulnerable to the harmful health effects of air pollution emanating from the Fisk and Crawford plants are also among the most economically disadvantaged and those least able to pay for medical care. Harmful effects are often most pronounced in children, senior citizens, and people suffering from lung disease, heart disease and diabetes.

The 2000 Census shows per capita incomes of residents living near Fisk (\$15,076) and Crawford (\$11,097) are substantially lower than the average per capita income of the city of Chicago (\$20,175):

**Crawford** - The per capita income of residents within three miles of the Crawford coal-fired power plant is among the lowest in the nation (123<sup>rd</sup> out of 126 plants)<sup>3</sup>

**Fisk** - The per capita income of residents living within three miles of Fisk is somewhat higher, but still near the bottom. Eighteen plants in the nation are located in neighborhoods with per capita incomes lower than Fisk, and one of these is Crawford (Fisk ranks 108<sup>th</sup> out of 126).<sup>3</sup>

## **These Plants Also Are Contributing to Climate Change**

**Fisk and Crawford emit lots of carbon dioxide** - Carbon Dioxide (CO<sub>2</sub>) is one of the most potent greenhouse gases, significantly contributing to climate change. In 2007 the Fisk and Crawford power plants emitted nearly 5 million metric tons of CO<sub>2</sub> into the atmosphere. This is equivalent to the emissions from 872,042 cars.<sup>8</sup>

**How climate change will affect Chicago** - Leading climate scientists expect the U.S. to warm more than the global average. If current trends continue, greenhouse gas emissions will cause Chicago to experience hotter summers, more regular heat waves consisting of deadly temperatures, worse air and water quality, lower lake levels and less frequent, but heavier rains causing flash flooding and potential property damage and loss of life.

**We need to move away from coal** - Coal-fired power plants are responsible for over 1/3 of America's CO<sub>2</sub> emissions. This is about the same amount that is emitted from all transportation sources - cars, SUVs, trucks, buses, planes, ships, and trains - combined!

## **There Is a Better Way...and Chicago is Taking the Lead!**

**Chicago releases its Climate Action Plan** - In September of 2008, Mayor Daley announced the release of the Chicago Climate Action Plan, a comprehensive and detailed strategy for lowering the city's greenhouse gas emissions. The plan outlines strategies to achieve 26 actions identified to help the city, residents, and businesses not only reduce greenhouse gases by 25% below 1990 levels by 2020, but also save money, create jobs and improve the quality of life for all who work and live in Chicago. Recommendations in the plan related to energy efficiency, clean power and transportation are expected to create thousands of jobs each year.<sup>9</sup>

**What the plan says about power** - The Climate Action Plan calls the city to move away from fossil fuels to clean, renewable energy. Specifically, the plan says Chicago should work to:

**Upgrade or repower coal plants to reduce CO<sub>2</sub> emissions** - Upgrading or repowering the 21 coal plants in Illinois (including Fisk and Crawford) could yield a substantial reduction in CO<sub>2</sub> emissions, Chicago's share of which would be 2.5 million metric tons of CO<sub>2</sub> equivalent (MMTCO<sub>2</sub>e.).<sup>5</sup>

**Procure large-scale renewable sources** - Procuring renewable energy for Chicagoans (e.g., wind and solar), in order to reduce electricity-related CO<sub>2</sub> emissions by 20% could replace four coal-fired power plants. Shifting to renewable power sources will reduce greenhouse gas emissions by 3.0 MMTCO<sub>2</sub>e.<sup>5</sup>

### **Implementing the Climate Action Plan will create thousands of new jobs:**

The Chicago Climate Action Plan, when fully implemented, will directly generate demand for up to 2,500 energy efficiency-related jobs on an annual basis, plus hundreds of jobs in areas such as renewable energy installation, green roof design and installation, and collection, processing, resale and reuse of recycled materials.<sup>10</sup>

Capital investments in new and revitalized infrastructure, from new transit lines to water mains, could generate thousands of jobs on their own while helping Chicago mitigate and prepare for climate change.<sup>6</sup>

**Jobs will be in same areas of work** - Most of the jobs created through clean-energy investments will be in the same areas that people work in today. Constructing wind farms creates jobs for sheet metal workers, machinists, and truck drivers. Increasing buildings' energy efficiency through retrofitting requires roofers, insulators, and building inspectors.<sup>7</sup>

### **Investing in clean energy creates more jobs than investing in fossil fuels:**

**Clean energy....more jobs** - Clean-energy investments create 16.7 jobs for every \$1 million in spending. Spending on fossil fuels, by contrast, generates 5.3 jobs per \$1 million in spending.<sup>11</sup>

Relative to spending on fossil fuels, clean-energy investments create 2.6 times more jobs for people with college degrees or above, 3 times more jobs for people with some college, and 3.6 times more jobs for people with high school degrees or less.<sup>7</sup>

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**Chicago example** - Exelon and SunPower Corp. have constructed the nation's largest urban solar power plant at a former industrial site in the Pullman neighborhood on Chicago's southeast side. The 10-megawatt solar photovoltaic (PV) facility has already generated 200 construction jobs and will create 10 permanent ones. What is significant is that solar energy generates at least *five times* the number of permanent jobs per unit of generation capacity than is provided by a coal-fired power plant. Also, solar facilities can be built now, when construction jobs are needed.

## How Will the Clean Power Ordinance Affect Fisk and Crawford?

### Harmful emissions will be reduced:

Demonstrated technology is available to significantly reduce emissions of particulate matter and carbon dioxide (CO<sub>2</sub>) from the Fisk and Crawford coal-fired power plants, including but not limited to, the use of natural gas as the primary fuel.

The methods approved for measuring compliance with the ordinance will be based on those specified in the facility's air permit issued by the Illinois EPA or, if the IEPA permit does not specify a method, measurement will be based on U.S. EPA methodologies.

**Midwest Generation will be given time to comply** - The owners of the Fisk and Crawford power plants would have one and two years respectively, to phase in required pollution controls for particulate matter and up to three and four years, respectively to reduce CO<sub>2</sub> emissions.<sup>4</sup> This would give adequate time for adaptation, should the mandated improvements require the reduction, retraining or reassignment of personnel.

## Legal Action Already Taken against Midwest Generation

**Federal Lawsuit in 2009** - Despite the enactment of the Clean Air Act in 1970, Fisk and Crawford have avoided compliance with certain state and federal requirements due to their age and the grandfathering provisions in the laws. The Fisk and Crawford power plants are currently the subject of a federal law suit:

**In July 2009**, five environmental and public health advocate organizations announced their intent to file a Clean Air Act lawsuit against Midwest Generation for opacity violations, an indication of particulate matter entering the air from power plant smokestacks.<sup>12</sup> Before this case was officially filed, the government sued the company.

**On August 28, 2009**, the Justice Department, on behalf of the U.S. EPA and in conjunction with the Illinois Attorney General's office, filed a lawsuit against Midwest Generation alleging violations of the Clean Air Act.<sup>13</sup> The five environmental groups have joined the government lawsuit against the company.

**Chicago Has the Authority to Regulate Emissions** - State and federal air pollution regulations have not adequately addressed local impacts on human health resulting from the operation of the Fisk and Crawford coal-fired power plants. The City therefore has the right and the obligation to care for the health and safety of its residents.

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**Chicago is a home rule unit of government** - Pursuant to its home rule authority, the City may exercise any power and perform any function relating to its government and affairs, including, but not limited to, the power to regulate for the protection of the public health, safety and welfare of its residents.

**Chicago has regulated air pollutants and particulate matter** - The City adopted an Air Quality Ordinance regulating the discharge of smoke, fumes, soot, dust, odors, particulate matter, noxious gases and other pollutants into the air from sources located in Chicago before environmental legislation was enacted by the State of Illinois and United States of America to address the regional, national or international aspects of air pollution. This Ordinance was amended in October 2009.

### Other Pollution

**Coal Ash** - Coal ash is an abundant and dangerous by-product of burning coal for energy. Despite its hazardous characteristics, coal ash and other coal combustion wastes are not subject to federal regulation, and state laws governing coal combustion waste disposal are usually weak or non-existent.

The coalition has not yet discovered where the coal ash from the Crawford and Fisk plants is landfilled. But we do know that it is not stored on site, and believe that wherever it is being shipped, it is likely to harm the environment and public health of that area.

The Environmental Protection Agency (EPA) has long recognized the danger of coal ash. Therefore, national environmental organizations are asking EPA to act quickly to fulfill its duty to protect public health and the environment through strong federal regulations on coal ash.

**Water** - Crawford and Fisk power plants, like almost every coal fired power plant, uses local surface waters to cool the power plant. Once the water has been used to cool the plant, it is discharged back into the nearby river or creek, but at a higher temperature. This can cause problems for sensitive populations of fish and other aquatic life, and if the heat is extreme, it can cause fish kills.

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<sup>1</sup> Clean Air Markets - Data and Maps. U.S. Environmental Protection Agency. <http://camddataandmaps.epa.gov>.

<sup>2</sup> Cagney, PhD, Kathleen A. and Christopher R. Browning, PhD. 2004. Exploring Neighborhood-level Variation in Asthma and other Respiratory Diseases: The Contribution of Neighborhood Social Context. Journal of Internal Medicine. Springer New York. Volume 19, Number 3 / March, 2004.

<sup>3</sup> National Health Interview Survey. 1998. (Provided by Dr. Sandra Thomas, Chicago Department of Public Health.)

<sup>4</sup> Mannino et. al. 2002. "Surveillance for Asthma – United States, 1980-1999." Morbidity and Mortality Weekly Report. CDC.

<sup>5</sup> Levy, Jonathan I., John D. Spengler, et. al. 2001. Using CALPUFF to evaluate the impacts of power plant emissions in Illinois: model sensitivity and implications. Atmospheric Environment 10 September 2001.

<sup>6</sup> Center for Media and Democracy 2010. SourceWatch. Coal plants near residential areas.

<sup>7</sup> Ibid.

<sup>8</sup> Abrams, C. 2009. America's Biggest Polluters: Carbon Dioxide Emissions from Power Plants in 2007. Environment America Research & Policy Center.

<sup>9</sup> City of Chicago 2008. Chicago Climate Action Plan.

<sup>10</sup> Schrock, G. and Sundquist, E. 2009. Potential Workforce Impacts of the Chicago Climate Action Plan: Quantitative and Qualitative Assessments, University of Illinois at Chicago, Center for Urban Economic Development.

<sup>11</sup> Pollin, R. et.al. 2009. Clean Energy Investments Create Jobs in Illinois. The Political Economy Research Institute. Center for American Progress.

<sup>12</sup> Bibo, T. 2009. Illinois Coal Plants are being threatened with lawsuit. Peoria Journal Star July 29, 2009.

<sup>13</sup> Hawthorne, M. 2009. Air pollution lawsuit: Federal and state lawyers sue Midwest Generation over Illinois power plant emissions. Chicago Tribune August 28, 2009.