

Air Quality Focus on Puget Sound

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Regional Air Quality

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Information Sources

Clean Air Agency www.pscleanair.org

For daily reports and two day forecasts www.pscleanair.org

To join the mailing list www.psclean.org/news/email_list.shtm/

For more information about the climate change program www.pscleanair.org

For more information about Diesel Solutions www.pscleanair.org/dieselsolutions

Introduction

Is clean air important? Ask the dinosaurs. They probably expired when a meteor hitting the earth affected its atmosphere and then its climate. Natural events such as fires, volcanoes, air movements, and vegetation changes continue to affect air quality. People, however, have recognized for centuries that their activities also affect air quality. In 1305, King Edward I of England banned the use of certain coals (those containing sulfur) because of the smoke which they produced. Reducing smoke from burning coal continued to be a goal in England. Every science student is probably familiar with the story of the English moths whose color changed from light to dark as cities grew and the use of coal for heating and industry increased.

Air pollution is a commonly used term now. The understanding of what pollution is has changed through the years as people have become more knowledgeable about what is in the air and how it affects the environment. Ambient air is a term frequently used when air quality standards are set. Air is tested to determine the level of criteria pollutants and then given a rating which is referred to as the ambient air quality. The air in a region or more limited area can then be judged on the basis of established standards. The focus in this article is outdoor air quality, although it is widely recognized that indoor air quality is related with a variation in components.

In the United States, efforts to control air pollution began with the industrial revolution. Chicago and Cincinnati enacted clean air legislation in 1881. Other areas followed. Until 1965 these regulations were basically black smoke ordinances. In some cities "smoke watchers" were trained to watch smoke stacks. They used a chart called the Ringlemann chart to determine the level of pollution. The charts, when used by trained observers, held up in court as legal testimony.

In 1924, Seattle had a smoke control ordinance administered by the City Health Department. Through the years that followed, the City measured dustfall. In 1969, dustfall averaged 30.2 tons per square mile overall and 79.3 in the industrial center. The Seattle City Council passed a pollution control ordinance in 1961 that made pollution a misdemeanor. It became the first local ordinance in Washington to be judicially tested when Seattle refused to let companies which burned autos as a means of disposing of them operate within the city limits.

The earliest attempts to control air pollution focused on smoke. The effects of smoke on the lungs, house siding, and laundry hanging on the line were fairly obvious.

Several disastrous events made it apparent that dirty air affected not only the laundry but human health. In 1952, weather conditions left London shrouded in a smog which lasted for five days. Nearly four thousand deaths were attributed to the "killer smog" of that five day period. The English government soon passed a series of Clean Air Acts aimed to control domestic sources of smoke pollution. The U.S. had similar experiences. Seventeen people died in Donora, PA, after a four day period of fog and smoke. Smog in New York City in 1963 was reported to have killed more than 400 residents. Air pollution is now regarded as a problem arising from human activities. Human and animal health problems, dying lakes and vegetation, damaged surfaces, and changes in climate are associated with it.

In the late 1960s, the federal administration under the leadership of President Nixon began to consider how an agency might be developed to focus on the environment. At the same time, Congress sent a bill to the president known as the National Environmental Policy Act (NEPA). NEPA called for the formation of a Council on Environmental Quality (CEQ) to give the President expert advice on environmental matters. In his 1970 State of the Union address, President Nixon spoke of transforming our land into the land we want it to be. This was followed in February by a thirty-seven point environmental action program which gave special attention to federal programs dealing with air and water pollution.

The first Earth Day celebration in April of 1970 brought out 20 million Americans to demonstrate for the Earth and for environmental reform. The impact of Earth Day strengthened the impact of a report which argued that there should be an independent agency to coordinate environmental initiatives. The Environmental Protection Agency (EPA) was established December 2, 1970, with the following mission:

1. Establish and enforce environmental protection standards,
2. Conduct environmental research,
3. Provide assistance to others combating environmental pollution,
4. Assist the Council on Environmental Quality (CEQ) in developing and recommending to the President new policies for environmental protection.

William Ruckelshaus was appointed head of the new agency. He was a popular and enthusiastic administrator and viewed the EPA as playing a crucial role in developing an environmental ethic.

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The year 1970 closed with the signing of the Clean Air Act (CAA). The Clean Air Act required the EPA to establish national standards for air quality and for significant pollution sources. It also established new standards for significant new pollution sources and for all facilities emitting hazardous wastes.

In 1971 EPA set national air quality standards for six criteria pollutants: carbon monoxide, lead, nitrogen dioxides, ozone, sulfur dioxide, and suspended particulate matter.

1. Carbon monoxide is a colorless odorless gas formed when carbon is not burned completely. The major source is motor vehicle exhaust. Carbon monoxide reduces the body's ability to deliver oxygen to body organs and tissues, and at high levels, can cause death. At lower levels, it impairs the body's ability to function at expected levels.
2. Lead is a metal found naturally in the environment and in many manufactured products. A major source of lead in the atmosphere was leaded gasoline. Lead was prohibited in gasoline, beginning by regulation in 1973. Lead was also commonly included in paints. Lead accumulates in the blood, bone, and soft tissue and adversely affects the organs. In fetuses and young children, lead can affect the nervous system and intellectual development of the child.
3. Nitrogen oxides are gases emitted from motor vehicles, power plants, and other sources of combustion. They affect lung function, increase susceptibility to respiratory infection and are toxic to vegetation. They are difficult pollutants to control.
4. Ozone is a gas produced by the reaction between nitrogen oxides and volatile organic compounds in the presence of heat and sunlight. Repeated exposure to ozone may cause permanent damage to the lungs and triggers and worsens related health problems. It also damages vegetation and corrodes various materials. Ozone is the primary component of smog.
5. Particulate matter is a general term used for solid particles or liquid droplets found in the air. They may be emitted directly from a source or formed in the atmosphere when gases from burning fuels react with sunlight and water vapor. Particulates are described as fine or coarse. Coarse particles generally include soil and ash. Fine particles are found in wood smoke and are produced from the burning of petroleum products. When particulates are inhaled, they can accumulate in the respiratory system and are associated with numerous health effects. Coarse

particles are associated with aggravated respiratory conditions. Fine particles penetrate more deeply and are associated with more serious respiratory and circulatory problems.

6. Sulfur dioxide is prevalent in many raw materials including oil, coal, and ores. These gases are formed when fuel containing sulfur such as oil and coal are burned. Sulfur dioxide is especially threatening to those with respiratory diseases. It is toxic to plants and corrodes metals.

Over the past twenty years, the national air quality levels for the six principal pollutants listed above have improved immensely. Early major control efforts targeted industries that, if operated indiscriminately, pollute. The industries included chemical, paper and pulp, cement, glass and ceramics, iron and steel, other metals, leather, refining and processing petroleum, and plants producing electricity by burning fossil fuels.

The primary sources of air pollutants now are motor vehicles. Improvement in automobiles has cut the amount of emitted pollutants but the number of miles driven has not decreased. Automobiles also emit carbon dioxide, a greenhouse gas, which is not classified as a pollutant.

Continuing research has expanded air quality concerns far beyond the effect of dirty air on the laundry or the health hazards of a heavy smog. For instance, acid rain has become a national concern. Acid rain is produced when sulfur dioxide and nitrogen oxide emissions from power plants form acids in the atmosphere and precipitate as rain or snow. The emissions are often carried hundreds of miles before precipitation occurs. The eastern United States has suffered heavy damage to streams and vegetation because of emissions produced in the midwest. Puget Sound power plants which burn coal use a low-sulphur coal which does not contribute much to acid rain.

Ozone is a naturally occurring gas that exists in large quantities in the stratosphere, one of the upper layers of the Earth's atmosphere. There, ozone works to protect life on earth by absorbing ultraviolet rays and other harmful rays from the sun. This ozone layer is steadily being destroyed by chlorofluorocarbons, halons, and other ozone-depleting substances in the atmosphere. This is in contrast to the ozone produced at ground level which is injurious to health.

As the ozone layer is destroyed, more harmful ultraviolet rays reach the Earth's surface. This causes skin cancer,

cataracts, and other health problems and may exert dangerous effects on plankton, agricultural products, and all kinds of plants and animals

Current Focus on Small Particles and Toxins

The current focus of air quality concerns are fine particles and toxins. Scientists have learned that fine particles are especially injurious to health. The national standard for particle size in testing ambient air quality has been lowered from a particle size described as PM10 to PM2.5. Fine particles are produced by wood smoke and auto exhaust. PM2.5 emissions from diesel-powered vehicles are coated with thousands of potentially toxic chemicals.

There are almost 200 toxic air pollutants regulated under the Clean Air Act. These include toxins such as benzene, dry cleaning emissions, solvents, mercury, and a variety of chemicals from industrial sources.

The Puget Sound Clean Air Agency

The Puget Sound Clean Air Agency (the Clean Air Agency) was established by state law in 1967 to help provide Puget Sound residents with clean air. Although the establishment of such an agency is mandated by federal law, it was established as a municipal government by state law. The agency is based in Seattle and serves King, Kitsap, Pierce, and Snohomish counties. It enforces federal, state, and local air quality laws and regulations in the four counties. The agency works in partnership with the U.S. Environmental Protection Agency, the Washington Department of Ecology, the Puget Sound Regional Council, the Washington Department of Transportation, industry, local jurisdictions, and private citizens. The agency is funded by a combination of sources including registration fees, permits, federal, state, and local grants, and fees paid by cities and counties.

Historically, the Clean Air Agency has monitored pollution levels by collecting filters which are installed at monitoring sites throughout the area. The filters trap air pollutants for 24 hours. Most sites are using this manual system to track fine particle pollution.

The Clean Air Agency has taken the lead nationally in developing a system of continuous electronic monitoring which provides real time information on a broader range of pollutants. The emphasis is changing from monitoring the traditional pollutants to those which are seen as emerging health threats.

The Clean Air Agency pursues an aggressive program which includes seeking citizen participation in decision making, collaboration, education and information (See web site information sources on page S2.) The Agency has

established a work program for 2004 which is summarized below with added background information:

The Agency defines its goals in terms of the big picture.

1. Diesel exhaust is a significant source of fine-particle pollution and air toxics.

Goals:

- Implement the new school bus cleanup program.
- Expand the diesel solutions program by adding voluntary public and private partners.
- Design and implement a voluntary program to reduce non-road diesel pollution from ships, locomotives, and construction equipment.

Diesel exhaust is produced when an engine burns diesel fuel. It is a complex mixture of thousands of gases and fine particles (commonly known as soot) that contains 40 toxic air contaminants. These include many known or suspected cancer-causing substances such as benzene, arsenic, and formaldehyde. It also contains other harmful pollutants, including nitrogen oxides. It causes cancer and triggers and worsens asthma attacks. It is especially bad for children because they breathe a lot of it from school bus emissions. During the 2002–03 session, the State Legislature funded a new program in which school buses will be equipped with exhaust treatment devices and/or use cleaner fuels. The measure allocated 25 million dollars over a five year period to fit school buses with new equipment.

The EPA mandates that by 2007, all new buses produced must be low-polluting. Diesel engines last a long time, up to fifteen years. So the purpose of the State program is to retrofit existing buses and change the fuel used. The PSCAA goal is that by 2008, all students will be riding in low-emission buses using which use low-emission fuels.

The City of Seattle, King County Metro, the Boeing Company, and other non-school partners are involved in a program called Diesel Solutions. This is a cooperative program designed to reduce diesel emissions.

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2. Smoke from fireplaces and uncertified wood stoves is a significant source of fine particle pollution and air toxics.

Goals:

- Tighten the burn-ban trigger by basing it on fine particles instead of coarse particles.
- Require the disclosure of uncertified wood stoves and fireplaces at the time homes are sold.

Temporary burn bans are called when pollution levels have reached a trigger point defined by state law and air quality meteorologists predict that the stagnant air will persist. A Stage One ban prohibits the use of uncertified wood stoves and fireplaces unless they are a home's only source of heat. A Stage Two ban prohibits the use of all wood stoves and fireplaces except for sole heat sources. These bans also prohibit all outdoor burning in rural areas where it is otherwise still allowed.

Incomplete combustion produces pollution. Homeowners are urged to burn very dry wood, convert their fireplaces to gas, or burn a processed product such as a duroflame log.

Efforts are under way in the State Legislature to lower the size of the particles which initiate a burn ban. The State's current ban is for coarse particles described in size as PM10. The current National Ambient Air Quality Standard established in 1997 is directed at fine particles whose size is described as PM2.5. These fine particles are being recognized as most harmful to health.

3. Outdoor fires cause half of summertime fine-particle pollution.

Goals:

- Consider further prohibitions of burning land-clearing debris where other alternatives are available.
- Expand alternatives to outdoor burning such as curbside collection.

Widespread burning to get rid of waste used to be fairly common. Many businesses and industries routinely burned their garbage. A first step for the Clean Air Agency was to develop and enforce regulations to control business/industrial burning. State legislation in 1988 established a state burn ban law.

Outdoor burning is highly regulated and the Fire Department and PSCAA work together to control it.

4. The region remains close to violating federal health standards for ozone each summer. Gas stations and automobiles are the largest sources.

Goals:

- Improve gas station compliance for recovering gasoline vapors from motor-vehicle fueling, training station operators, and auditing station performance.
- Continue partnership with gasoline refiners to provide special low evaporation gasoline in the summer.
- Encourage people to buy fuel-efficient cars such as hybrids.

Ozone is the primary component of smog, that brownish haze that hangs over the city during the summer. The primary cause of ozone formation is gasoline-fueled vehicles that emit volatile organic compounds. They contribute one third of the smog forming pollutants. Other contributors are fumes from paint, and exhaust from gasoline fired gardening equipment. Heat is a major factor in ozone formulation.

5. Regulating industry takes a big chunk of the budget to ensure continued success. Industry now contributes less than five percent of air pollution.

Goals:

- Revise program to meet current needs.
- Review the industries which are currently being regulated.

6. Reducing greenhouse gases also reduces fine particles, carbon monoxide, air toxins, and other pollutants.

Goal:

- Continue to develop a greenhouse-gas reduction program by convening a stakeholders' group to recommend a regional goal for greenhouse gas reductions.

Greenhouse gases allow sunlight to enter the atmosphere unimpeded. When the sunlight strikes the earth's surface, some of it is reflected as infrared radiation (heat). Greenhouse gases

tend to absorb this radiation as it is reflected back towards the space, trapping the heat in the atmosphere. The trapped heat is probably leading to changes in the world climate and ecology. Many gases exhibit greenhouse properties and many of them occur naturally.

The top producers of greenhouse gases in Washington in 2000 were: transportation – 46.8%; energy production – 43.1%; agriculture – 5.6%; and manufacturing – 4.6%

Climate change precipitated by the production of greenhouse gases is rapidly becoming a major issue. The UN sponsored intergovernmental Panel on Climate Change, a group of 2500 top scientists in the world has concluded that emissions of greenhouse activities due to human activities continue to alter the atmosphere in ways that affect the climate. The climate changes may be extensive and are discussed in greater detail later.

The Climate Impacts Group at the University of Washington, a group of scientists and policy analysts, have produced several models predicting climate change and its impacts in the Pacific Northwest. Patrick Mazza's summary of the Climate Impacts Group's findings suggest the following for Washington.

Temperature increases by the year 2020 will be well outside the natural range of climate in the 20th century. The most significant change is that snow cover will shrink in coming decades with lower elevations losing snow first. During the winter, warmer temperatures will mean that precipitation falls less as snow and more as rain, reducing the amount of water stored naturally for later use. The future probably holds increases in winter flooding and increases in summer drought. When droughts occur, hundreds of entities, including irrigation districts, fisheries managers, and tribes will assert their rights to scarce water. Population growth will increase the demand for water at a time when climate change is squeezing the existing water supply.

Trends toward warmer temperatures in streams, estuaries, and the coastal ocean, combined with reduced summer stream flow pose an increasing threat to salmon stocks. There is also likely to be an increase in contaminants in the food chain. This will happen because pesticides, heavy metals, and long lived toxins circulating in the atmosphere get trapped in falling snow and locked up in glaciers. As climate change increases the melting of glaciers, these toxins are

released and flow into rivers, lakes, and Puget Sound.

An increase in summer heat waves poses dangers to vulnerable populations. Drier summers could elevate pollen counts. Warmer temperatures encourage an increase in the number of disease-carrying insects. Warmer ocean waters could increase algal blooms called red blooms.

Rising sea levels are expected to encroach on Olympia, Raymond, and South Bend in Washington. World sea levels have already risen four to ten inches over the past century. Three inches more are expected by 2020, and eight by 2050. These rises add height to tides and boost storm surges. Rising water may erode beaches, back up rivers, and spread flooding. They may also increase coastal bluff landslides and drown parts of tidal marshes.

The major expected global warming impact on northwest forests is increased frequency and intensity of disturbances. Warmer temperatures will dry out forests, promoting fires. Some insect species may be able to do damage at higher elevations. Trees do not migrate easily. If a tree is stressed in an environment, its offspring will probably not survive there. A number of key scientists believe large areas of conifer forest on the east slopes of the Cascades could burn and be replaced by sagebrush steppe and grassland.

Greenhouse gases are clearly an issue to be addressed; but carbon dioxide, for example, is a naturally occurring gas which is not classified as a pollutant. The fauna of the earth inhale oxygen and exhale carbon dioxide. The flora of the earth inhale carbon dioxide and exhale oxygen. Combustion/burning also uses oxygen and produces carbon dioxide. In a balanced system, carbon dioxide would not be a problem. You can see how the problem is created. Removing vegetation and building power plants which are powered by burning fossil fuels unbalances the system. Although carbon dioxide has not been classified as a pollutant, it is being recognized as such by numerous private and governmental groups including the governors of California, Oregon, and Washington.

In September 2003, California's governor Gray Davis, Washington's Gary Locke, and Oregon's Ted Kulongoski announced that they had directed their staffs to work together during the next year to develop joint policy recommendations focused on activities that require regional cooperation and action and present them to the Governors no later than September 1, 2004.

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These measures should include recommendations on:

1. Using the states' combined purchasing power to obtain fuel-efficient vehicles and low-rolling resistance tires for motor pool fleets. For example, the states are working on a uniform specification for the purchase of hybrid vehicles.
2. Reducing emissions from diesel fuel through reductions in the use of diesel generators in ships at west coast ports, and by creating a system of emission-free truck stops along the Interstate Five corridor that stretches from Mexico to Canada.
3. Removing barriers to and encouraging the development of renewable electricity generation resources and technologies.
4. Improving efficiency standards with the potential to reduce greenhouse gas emissions. Specifically, the states could work to upgrade appliance efficiency standards.
5. Developing consistent and coordinated greenhouse gas emission inventories, protocols for standard reporting, and accounting methods for greenhouse gas emissions. Collaborating on improved scientific tools to more precisely measure the impact of climate change.

Dennis McLerran, director of the Clean Air Agency believes that the local and regional efforts of concerned groups can influence national actions. If a state such as California passes an act which exerts more stringent controls than the national legislation, other states tend to follow.

SOURCES – Air Quality Study

American Lung Association of Washington. Facts About Diesel Exhaust. 2004. www.alaw.air-quality.

Blue Skies Alliance. www.blueskiesalliance.org/BlueSkiesAlliance-FactsAboutTheCleanAirAct.htm

Breathing. Publication of the American Lung Association of Washington. May 2003.

Caring for Climate: A Guide to Climate Change Convention and the Kyoto Protocol.

Christianson, Gale E. Greenhouse, *The Two Hundred Year Story of Global Warming*. Walker and Company. New York, 1999

Clean Air Matters, Publication of the Puget Sound Clean Air Agency. Spring, Summer, Fall, 2003, and Winter 2004.

Climate Change Secretariat. Bonn, Germany. 2003.

Climate Impacts Group at the University of Washington. www.jisao.washington.edu/PNWimpacts/

Climate Solutions. Local action group which prints a free newsletter. climatesolutions.org

Climate Solutions. Natural Resources Defense Council. 1200 NY Ave. NW. WA DC. Press Release: Sept. 2003. www.nrdc.org/media

Dauncey, Guy and Patrick Mazza. *Stormy Weather*, 101 Solutions to Climate Change. New Society. Gabriola Island, B.C., 2001 (in paperback)

Environmental Protection Agency (EPA) Journal. *History of the EPA*. Jack Lewis. 1985. www.epa.gov/history/ (The EPA website is a valuable source of information).

Journal of the American Medical Society. Vol. 287. No. 9. March 6, 2002.

National Voter. LWVUS. 1730 M Street NW WA DC. September/October 2003.

Steekler, J. *Introduction to Air Pollution: Paradox or Progress*. Roanoke College. www2.roanoke.edu

World Health Organization (WHO) Fact Sheet. *Air Pollution*. Geneva, Switzerland. 1998. www.who.int/

Attended Northwest Collaborative Air Priorities Project. June 3-5, 2005. Seattle WA.

Interviewed Dennis McLerran. Director PSCAA. February, 2004.

The material was also review by Astrid Berg, former Executive Director of the American Lung Association of Washington and by John Anderson of the Puget Sound Air Quality Agency. March, 2004.

APPENDIX A**Summary Of Federal Legislation**

1. In 1955, the federal government passed the Air Pollution Control Act of 1955. This was the initial legislation in regard to air pollution. The language of the bill identified air pollution as a national problem and announced that research and additional steps to improve the situation needed to be taken.
2. In 1963, Congress passed the Clean Air Act. This act dealt with reducing air pollution by setting emission standards for stationary sources such as power plants and steel mills. It did not take into account mobile sources of air pollution, which had in fact become the largest source.
3. In 1965, '66, '67, and '69 amendments were passed which authorized the Secretary of Health, Education, and Welfare to:
 - a. Set standards for auto emissions,
 - b. Expand local air pollution control programs,
 - c. Expand air quality control regions,
 - d. Set air quality standards and compliance deadlines, and
 - e. Authorized research on low-emission fuels and automobiles.
4. In 1970, the Clean Air Act of 1970 was passed which set more demanding standards. Because of the inability or reluctance of the auto industry, deadlines for auto emission standards were extended.
 - a. This act set national air quality standards to protect health and welfare,
 - b. Set new source performance standards,
 - c. Gave citizens the right to take legal action against violators of emissions standards.
5. An amendment in 1977 represented the government's first attempt to prevent the destruction of stratospheric ozone by limiting the use of chlorofluorocarbons(CFC's). This effort has continued through the years with additions to the list of controlled pollutants.
6. In 1990, the Clean Air Act addressed five main areas:
 - a. Air quality standards,
 - b. Motor vehicle emissions and alternative fuels,
 - c. Toxic air pollutants,
 - d. Acid rain, and
 - e. Stratospheric ozone depletion.

Under the 1990 Clean Air Act, the EPA sets limits on how much of a pollutant can be in the air anywhere in the U.S. The law allows individual states to have stronger pollution controls, but states are not allowed to have weaker pollution controls than those set for the whole country.

States are to develop state implementation plans (SIPS) that explain how each state will do its job under the Clean Air Act. A state implementation plan is a collection of the regulations a state will use to clean up polluted areas. The states must involve the public through hearings and opportunities to comment in the development of each state implementation plan. The EPA must approve each SIP and if the SIP is not acceptable, EPA can take over enforcing the Clean Air Act in that state.

The 1990 Clean Air Act provided for interstate commissions on air pollution control. It also addressed pollution which drifts across North American borders. The 1990 Act established a permit system which simplified and clarified obligations for cleaning up pollution.

In February 2002, President Bush announced a new climate change strategy for the nation. It sets a voluntary "greenhouse gas intensity" target for the nation, expands and improves programs encouraging companies to voluntarily report and reduce their greenhouse gas emissions, and proposes increased federal funding for climate change science and technology development. No real effort has gone into controlling green house gases although congressional interest is developing.

In 2003, legislation described as the Clear Skies Act was proposed. At this date (February 2004) that Act is being deliberated in the U.S. Senate. The proposed measure has aroused opposition because it would delay deadlines to meet the health related deadlines of the Clean Air Act of 1990, relaxes pollution reduction requirements for power plants and other major pollution sources, and repeals protections for the national parks.

Power plants which burn fossil fuel to produce energy have been major sources of pollution. The EPA regulation has been that those plants may expend up to 15 percent of the plants' value for repairs without bringing the plant

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up to current standards. The EPA has challenged several of these plants because they have exceeded the allowed investment limit and not brought the plants up to current standards. The proposed Clear Skies Act would allow the plants to expend up to 25 percent of their value without installing the currently required equipment for controlling pollution.

State Legislative Effort

Most of the Washington's efforts to improve air quality are reflected in the work of the Clean Air Agency. Passing the legislation has been supported by several groups with environmental interests, among them being the LWVWA and the Puget Sound Clean Cities Coalition. The Puget Sound Clean Cities Coalition, is an organization of public and private agencies and businesses that have worked to promote the use of alternatively fueled vehicles and fuel facilities. The efforts to retrofit school buses, increase production of cleaner fuels, establish a burn ban, and support alternatives which decrease motor vehicle emissions have been accomplished through the efforts of these groups and the state legislature. A measure just passed by the 2003–04 legislature requires some mitigation of carbon dioxide emitted from natural gas plants.

APPENDIX B

League History Regarding Air Pollution Issues

The League of Women Voters of the United States began its study of air pollution in 1970. In 1971, the League reached a position in support of federal air pollution controls on industrial production, on government installations, on fuels, and on vehicles. Since then the LWVUS has pressed for full implementation of the Clean Air Act of 1970 and for reenactment of an expanded Clean Air Act. The LWVUS was cheered by the passage of the 1990 Clean Air Act which included major improvements to combat acid rain and smog and to cut the emission of toxins.

At the state and local level, the League of Women Voters became actively involved in air pollution issues in the late 1960's and early 1970's. A study produced by the Puget Sound Leagues of Women Voters (an organization no longer in existence) and printed in 1970 provides an excellent background on the causes of air pollution and the governmental actions being taken at the state and local level to control pollution. In 1971, LWVWA adopted a set of positions which support the role of government in establishing and maintaining air quality standards.

During the 105th Congress (1997–98), the LWVUS supported the EPA's issuance of National Ambient

Air Quality Standards for ground-level ozone and fine particulate matter to protect public health. At this time the League worked to defeat amendments to the Intermodal Surface Transportation Efficiency Act (ISTEA) that would have allowed designated air quality funds to be spent on highway programs. In 1998, the LWVUS lobbied the U.S. Senate to adopt the Kyoto Protocol which the Senate failed to do.

The United Nations Framework Convention on Climate Change was established in 1992. The Kyoto Protocol which set out more specific binding commitments followed in 1997. The League continues to urge Congress to pursue the goals of the protocol.

Between 1998–2000, the EPA attempted to establish new emission standards for heavier vehicles, the SUVs. The LWVUS supported those initiatives which failed.

Currently, the LWVUS President is urging the Congress and the public to oppose the Clear Skies legislation which has been introduced by the current administration.

APPENDIX C—Positions Related To Air Quality

National

Statement of Position on Natural Resources, as affirmed by the 1986 Convention, Based on Positions Reached from 1958 Through 1986:

The League of Women Voters of the United States believes that natural resources should be managed as interrelated parts of life-supporting ecosystems. Resources should be conserved and protected to assure their future availability. Pollution of these resources should be controlled in order to preserve the physical, chemical, and biological integrity of ecosystems and to protect public health.

The League supports: (selected list)

- Measures to reduce vehicular pollution, including inspection and maintenance of emission controls, changes in engine design and fuel types and development of more energy-efficient transportation systems;
- Regulation and reduction of ambient toxic-air pollutants;
- Measures to reduce transboundary air pollutants, such as ozone and those pollutants that cause acid deposition;
- Regulation of pollution sources by control and penalties;
- Inspection and monitoring;

- Full disclosure of pollution data;
- Incentives to accelerate pollution control;
- Vigorous enforcement mechanisms, including sanctions for states and localities that do not comply with federal standards and substantial fines for noncompliance;
- Energy goals and policies that acknowledge the United States as a responsible member of the world community;
- Reduction of energy growth rates;
- Use of a variety of energy sources, with emphasis on conserving energy and using energy-efficient technologies;
- The environmentally sound use of energy resources, with consideration of the entire cycle of energy production.

State Positions Related To Air Quality

The League of Women Voters of Washington supports:

- Coordinated action by all levels of government to control, limit, and reduce air pollution;
- Efforts to continue to make the public aware of the dangers of air pollution in order to gain broad support for efforts to reduce pollution;
- Establishment of minimum federal standards with state and regional authority to set more stringent standards;
- States to have the primary responsibility for development of regulations. This would not preclude establishment of more restrictive regulations by regional or local authorities;
- Regional authorities to function as primary enforcement agencies. Enforcement of regulations relating to mobile sources, such as vehicles, should be the responsibility of the state. If enforcement at any level is unsuccessful, it should be mandatory that another level assumes the responsibility;
- A single state agency to have responsibility for coordination of efforts to control all forms of environmental pollution including air, land, and water;
- Determination of regional authority boundaries primarily by weather patterns and topography and secondarily by political considerations such as boundaries of existing governmental units;
- State authority to institute emergency air pollution control measures in times of air episode conditions.

LWVS Board and Committee Numbers

	Term				
Executive Committee	2003-2005	President	Nancy Eitreim	(206) 722-2820	president@seattlelwv.org
	2003-2005	1st VP - Action Chair	Jan O'Connor	(206) 328-6330	joc@seattlelwv.org
	2002-2004	2nd VP - Voter Service	Ellyn Swanson	(206) 860-8758	gusellyn@attbi.com
	2002-2004	3rd VP - Program	Nancy Allan	(206) 568-3450	nkrallan@yahoo.com
	2002-2004	3rd VP - Program	Zita Cook	(206) 374-0369	zcook@cablespeed.com
	2003-2005	4th VP - Membership	Norma Shorrock	(206) 932-7252	nshorrock@prodigy.net
	2003-2005	Secretary	Paula Polet	(206) 297-8340	ppolet@wkg.com
	2002-2004	Treasurer	Linda Snider	(206) 284-6052	lsnider@juno.com
Directors	Appointed	Eastside Liaison	Charlene McKenzie	(425) 454-5967	mckenzie.r@comcast.com
	2003-2005	Membership	Norma Shorrock	(206) 932-7252	nshorrock@prodigy.net
	2002-2004	Political Party Liaison	Jack Smith	(206) 329-5514	erie1917@comcast.net
	2002-2004	Public Relations	Martha Jordan	(425) 883-9143	martyvoter@seattlelwv.org
	2003-2005	Social Policy Co-Chair	Peg Williams	(206) 284-7330	
	2003-2005	Social Policy Co-Chair	Shirley Harper	(206) 723-0651	
	2003-2005	Speakers Bureau	Wilhelmina Patterson	(206) 725-5870	
	2002-2004	Unit Coordinator	Diana Henderson	(206) 329-4561	whender912@aol.com
	2003-2005	Voter Editor	Nora Leech	(206) 322-0472	votereditor@seattlelwv.org
Off-Board Chairs		Candidate Forums	Inga Douglas	(206) 542-6484	
		CIS Desk Coordinator	Betty Sullivan	(206) 682-5240	jaybetty2@msn.com
		Voter Registration	Elsie Simon	(206) 283-6297	elsiesimon@aol.com
		Outreach Chair	Kitty Mahon	(425) 641-6756	outreach@seattlelwv.org
Land Use Committee		Land Use Co-Chair	Karen Kane	(206) 323-4721	
		Land Use Co-Chair	Jan O'Connor	(206) 328-6330	joc@seattlelwv.org
		City Parks	Alix Pye	(206) 935-8510	
		Growth Management	Lucy Steers	(206) 725-8691	
		Historic Preservation	Karen Kane	(206) 323-4721	
		Housing	JoAnne McGaw	(206) 528-0407	
		Housing	Jan O'Connor	(206) 328-6330	joc@seattlelwv.org
		Library/Pedestrian Issues	Lois Laughlin	(206) 323-5860	
		Neighborhood Planning	Position Available		
		Port/Waterfront	Position Available		
		Transportation	Linnea Hirst	(206) 706-5349	
Natural Resources Committee		Natural Resource Chair	John Roberts	(425) 868-9439	engrplus@worldnet.att.net
		Energy	Toni Potter	(206) 365-8949	
		Environmental Health Policy	Steve Gilbert	(206) 527-0926	
		Home Toxics	John Roberts	(425) 868-9439	engrplus@worldnet.att.net
		Litter	Charles Bagley	(206) 282-1578	
		Water Quality	Kerry Peterson	(206) 547-3029	
Social Policy Committee		Social Policy Co-Chair	Peg Williams	(206) 284-7330	
		Social Policy Co-Chair	Shirley Harper	(206) 723-0651	
		Education	Lucy Gaskill-Gaddis	(206) 938-3040	tlgaddis@gte.net
		Human Rights	Wilhelmina Patterson	(206) 725-5870	
		International Relations	Carol Goldenberg	(206) 527-8589	samgo@u.washington.edu
		Municipal Government	Alice Griffin	(206) 721-5942	
		Reproductive Choice	Dorothy Young Sale	(206) 322-1990	saledy@aol.com
Education Fund Board		Sandy Barney	President	(206) 363-2659	barneyagain@cs.com
		Gia Bullard	Treasurer	(206) 284-9702	giabullard@ttbi.com
		Therese Hansen		(206) 286-7685	hansen@sohalang.com
		Megan Taylor		(206) 367-5723	megsie@mincemeat.org
		Joan Peterson		(206) 789-7447	
		Helen Brumbach		(206) 283-1955	

Unit Meetings

The League of Women Voters of Seattle unit meetings are free and open to the public. Units discuss a different topic each month that corresponds with the monthly forum or study. The April meetings will focus on Regional Air Quality. For more information, call a Unit Leader listed below.

Unit	Time	Host	Host Phone	Unit Leader	Unit Leader Phone
Monday, April 5					
South End Eve.	7:30 pm	Shirley Harper 3131 37th PI S, Seattle	(206) 723-0651	Sam Scharff	(206) 722-3770
Tuesday, April 6					
West Seattle Eve	7:00 pm	Eleanor Laxdall 3525 SW Seola Lane	(206) 243-3373	----	----
Wednesday, April 7					
View Ridge	12:45 pm	Edith Lipson 6809 40th Ave NE	(206) 525-6460	Peggy Saari	(206) 525-0132
Thursday, April 8					
Mercer Island	9:15 am	Eleanor Brown 3820 80th Ave Mercer Island	(206) 275-2455	Martha Jordan	(425) 883-9143
North Central	7:30 pm	Gail Shurgot 6536 31st Ave NE	(206) 522-8265	Gail Shurgot Janet Orlando	(206) 222-8265 (206) 524-0936
Shoreline	7:00 pm	Richmond Beach Congregational Church 195th NW & 15th Ave NW		Juliet Beard	(206) 542-3744
Saturday, April 10					
Ballard/Magnolia/QA	9:30 am	Joan Peterson 6537 Dibble Ave NW	(206) 789-7447	Joan Peterson Lisa Peterson	(206) 789-7447 (206) 547-3029
Monday, April 12					
Capital Hill/Montlake	7:15 pm	Jan O'Connor 2344 McGilvra Blvd E	(206) 328-6330	Paula Polet	(206) 297-8340
Monday, April 12					
First Hill	9:30 am	Mary Margaret Pruitt 900 University St. Horizon House Social Room	(206) 382-3785	Mary Margaret Pruitt	(206) 382-3785
LWVS Office	5:30 pm	LWVS Office 1620 18th Ave. Suite 101	(206) 329-4848	Maggie Morris	(206) 324-3591
Rainier Beach	10:00 am	Monica Leigh 900 University St. Horizon House Apt. 11K	(206) 382-3188	Alice Griffin	(206) 721-5942
Tuesday April 13					
Bellevue	10:00 am	Bellevue Library Room		Mary Wolch	(425) 747-1458
Kirkland/Redmond	7:00 pm	Liv Grohn 338 10th Ave, Kirkland	(425) 828-9445	Liv Grohn	(425) 828-9445
North End	12:30 pm	Helen St. John 12045 8th Ave NW	(206) 363-7658	Jo Dawson	(206) 363-1798
West Seattle Day	6:00 pm	Arts West Playhouse 4711 California Ave SW		Norma Shorrock	(206) 932-7252
<i>(West Seattle Fundraiser, call Norma for reservations)</i>					
Wednesday, April 14					
Magnolia/QA/Fremont	7:30 pm	Linda Snider 3416 30th Ave W	(206) 285-4432	Michele Horwitz	(206) 283-2635
Thursday, April 22					
Issaquah	10:30 am	Issaquah Library Meeting Room Front Street & Sunset		Margaret Austin	(425) 392-5760

We moved! New Address!

League of Women Voters of Seattle
1620 18th Ave, Suite 101
Seattle, WA 98122

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LWV of Seattle
1620 18th Avenue, Suite 101
Seattle, WA 98122

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New Address _____

City _____

Phone _____

ALERT!

**The date for the May
forum has changed!**

**The new date is
Thursday, April 29.**

Topic: Public Health

April Forum Regional Air Quality

Thursday April 1, 2004

Leaders Briefing: 6:30 pm

Forum: 7:30 pm

Seattle First Baptist Church
Harvard & Seneca

Note: There is a \$2 charge for parking in the lot adjacent to the church. Street parking is available.

All forums are free and open to the public.

Panel Members

Jim Noland, Puget Sound Clean Air Agency,
Director of Compliance

Dr. Jane Koenig, Department of
Environmental Health, UW

Robin Evans-Agnew, American Lung
Association of Washington, Director of
Program Development

Dr. Philip Mote, Climate Impacts Group,
UW, Washington State Climatologist