

1: 4 Ways to Take Action to Reduce Air Pollution - wikiHow

Get this from a library! Atmospheric pollution. [Wilfrid Bach] -- This text concentrates on specific air pollution problem areas. Chapters are structured to include a descriptive section which introduces the bulk of the information available concerning the specific.

Pollution is now a common place term, that our ears are attuned to. We hear about the various forms of pollution and read about it through the mass media. Air pollution is one such form that refers to the contamination of the air, irrespective of indoors or outside. A physical, biological or chemical alteration to the air in the atmosphere can be termed as pollution. It occurs when any harmful gases, dust, smoke enters into the atmosphere and makes it difficult for plants, animals and humans to survive as the air becomes dirty. Air pollution can further be classified into two sections- Visible air pollution and invisible air pollution. Another way of looking at Air pollution could be any substance that holds the potential to hinder the atmosphere or the well being of the living beings surviving in it. The sustainment of all things living is due to a combination of gases that collectively form the atmosphere; the imbalance caused by the increase or decrease of the percentage of these gases can be harmful for survival. Read here more about 40 facts of air pollution. The Ozone layer considered crucial for the existence of the ecosystems on the planet is depleting due to increased pollution. Global warming , a direct result of the increased imbalance of gases in the atmosphere has come to be known as the biggest threat and challenge that the contemporary world has to overcome in a bid for survival. Types of Pollutants In order to understand the causes of Air pollution, several divisions can be made. Primarily air pollutants can be caused by primary sources or secondary sources. The pollutants that are a direct result of the process can be called primary pollutants. A classic example of a primary pollutant would be the sulfur-dioxide emitted from factories Secondary pollutants are the ones that are caused by the inter mingling and reactions of primary pollutants. Smog created by the interactions of several primary pollutants is known to be as secondary pollutant. Causes of Air pollution 1. Burning of Fossil Fuels: Sulfur dioxide emitted from the combustion of fossil fuels like coal, petroleum and other factory combustibles is one the major cause of air pollution. Pollution emitting from vehicles including trucks, jeeps, cars, trains, airplanes cause immense amount of pollution. We rely on them to fulfill our daily basic needs of transportation. But, there overuse is killing our environment as dangerous gases are polluting the environment. Carbon Monoxide caused by improper or incomplete combustion and generally emitted from vehicles is another major pollutant along with Nitrogen Oxides, that is produced from both natural and man made processes. Ammonia is a very common by product from agriculture related activities and is one of the most hazardous gases in the atmosphere. Use of insecticides, pesticides and fertilizers in agricultural activities has grown quite a lot. They emit harmful chemicals into the air and can also cause water pollution. Exhaust from factories and industries: Manufacturing industries release large amount of carbon monoxide, hydrocarbons, organic compounds, and chemicals into the air thereby depleting the quality of air. Manufacturing industries can be found at every corner of the earth and there is no area that has not been affected by it. Petroleum refineries also release hydrocarbons and various other chemicals that pollute the air and also cause land pollution. Mining is a process wherein minerals below the earth are extracted using large equipments. During the process dust and chemicals are released in the air causing massive air pollution. This is one of the reason which is responsible for the deteriorating health conditions of workers and nearby residents. Household cleaning products, painting supplies emit toxic chemicals in the air and cause air pollution. Have you ever noticed that once you paint walls of your house, it creates some sort of smell which makes it literally impossible for you to breathe. Suspended particulate matter popular by its acronym SPM, is another cause of pollution. Referring to the particles afloat in the air, SPM is usually caused by dust, combustion etc. Effects of Air pollution 1. Respiratory and heart problems: The effects of Air pollution are alarming. They are known to create several respiratory and heart conditions along with Cancer, among other threats to the body. Several millions are known to have died due to direct or indirect effects of Air pollution. Children in areas exposed to air pollutants are said to commonly suffer from pneumonia and asthma. Another direct effect is the immediate alterations

that the world is witnessing due to Global warming. Harmful gases like nitrogen oxides and sulfur oxides are released into the atmosphere during the burning of fossil fuels. When it rains, the water droplets combine with these air pollutants, become acidic and then fall on the ground in the form of acid rain. Acid rain can cause great damage to human, animals and crops. The green colored algae that is present on lakes and ponds is due to the presence of this chemical only. Just like humans, animals also face some devastating effects of air pollution. Toxic chemicals present in the air can force wildlife species to move to new places and change their habitat. The toxic pollutants deposit over the surface of the water and can also affect sea animals. Depletion of Ozone layer: As the ozone layer will go thin, it will emit harmful rays back on earth and can cause skin and eye related problems. UV rays also have the capability to affect crops. When you try to study the sources of Air pollution, you enlist a series of activities and interactions that create these pollutants. There are two types of sources that we will take a look at: Natural sources and Man-made sources. Natural sources of pollution include dust carried by the wind from locations with very little or no green cover, gases released from the body processes of living beings Carbon dioxide from humans during respiration, Methane from cattle during digestion, Oxygen from plants during Photosynthesis. Smoke from the combustion of various inflammable objects, volcanic eruptions etc along with the emission of polluted gases also make it to the list of Natural sources of Pollution. While looking at the man-made contributions towards air pollution, smoke again features as a prominent component. The smoke emitted from various forms of combustion like in bio mass , factories, vehicles, furnaces etc. Waste used to create landfills generate methane, that is harmful in several ways. The reactions of certain gases and chemicals also form harmful fumes that can be dangerous to the well being of living creatures. Solutions for Air Pollution 1. Use public mode of transportation: Encourage people to use more and more public modes of transportation to reduce pollution. Also, try to make use of car pooling. If you and your colleagues come from the same locality and have same timings you can explore this option to save energy and money. Switch off fans and lights when you are going out. Large amount of fossil fuels are burnt to produce electricity. You can save the environment from degradation by reducing the amount of fossil fuels to be burned. Understand the concept of Reduce, Reuse and Recycle: Do not throw away items that are of no use to you. In-fact reuse them for some other purpose. Emphasis on clean energy resources: Clean energy technologies like solar , wind and geothermal are on high these days. Governments of various countries have been providing grants to consumers who are interested in installing solar panels for their home. This will go a long way to curb air pollution. Use energy efficient devices: CFL lights consume less electricity as against their counterparts. They live longer, consume less electricity, lower electricity bills and also help you to reduce pollution by consuming less energy. Several attempts are being made world wide on a personal, industrial and governmental levels to curb the intensity at which Air Pollution is rising and regain a balance as far as the proportions of the foundation gases are concerned. This is a direct attempt at slacking Global warming. We are seeing a series of innovations and experiments aimed at alternate and unconventional options to reduce pollutants.

2: How Does Pollution Affect Humans? - The World Counts

The most obvious effect of pollution is on the environment. Greenhouse gases, such as carbon dioxide and methane, contribute to climate change, which causes sea level to rise, drought, stronger storms, hotter temperatures, and decreased snowpack.

Tons of hazardous waste thrown out Globally, this year TheWorldCounts, 06 August, We live off the Earthâ€¦ Since we share everything on Earth with every living thing on the planet, what happens in one area affects everything too, no matter how far away. Pollution or the introduction of different forms of waste materials in our environment has negative effects to the ecosystem we rely on. There are many kinds of pollution, but the ones that have the most impact to us are Air and Water pollution. The Consequences of Pollution How does pollution affect humans? In the following paragraphs, we will enumerate the consequences of releasing pollutants in the environment. We are already seeing its effects in the form of global warming, contaminated seafood, increased cases of lung diseases and more. Global Climate Change Facts Air Pollution Effects We release a variety of chemicals into the atmosphere when we burn the fossil fuels we use every day. We breathe air to live and what we breathe has a direct impact on our health. Breathing polluted air puts you at a higher risk for asthma and other respiratory diseases. Air pollutants are mostly carcinogens and living in a polluted area can put people at risk of Cancer. Coughing and wheezing are common symptoms observed on city folks. Damages the immune system, endocrine and reproductive systems. High levels of particle pollution have been associated with higher incidents of heart problems. The burning of fossil fuels and the release of carbon dioxide in the atmosphere are causing the Earth to become warmer. Read about the effects of Global Warming here. The toxic chemicals released into the air settle into plants and water sources. Animals eat the contaminated plants and drink the water. The poison then travels up the food chain â€” to us. We need clean water to drink, to irrigate our crops and the fish we eat live in the waters. We play in rivers, lakes and streams â€” we live near bodies of water. Diseases such as amoebiasis, typhoid and hookworm are caused by polluted drinking water. Water polluted by chemicals such as heavy metals, lead, pesticides and hydrocarbon can cause hormonal and reproductive problems, damage to the nervous system, liver and kidney damage and cancer â€” to name a few. A polluted beach causes rashes, hepatitis, gastroenteritis, diarrhea, encephalitis, stomach aches and vomiting. Water pollution affects marine life which is one of our food sources. Remember the stories of contaminated shellfish and how those who ate them died? We live in an ecosystem where the action of one has the potential to affect the many. This can be a good or a bad thing, depending on what the action is. Our mistakes has polluted the environment that we live in and we are waking up and owning to the fact. We are trying to reverse the damage. The good news is that every positive action counts. The small effort you make towards a greener environment can start a healing ripple effect. We may still save what is left of our natural resources and make the world a better place to live in for our future generation. Know the stories behind the everyday products that you buy, and find green products and ethical companies at Firmhugger. Knowing is the first step to change.

3: 41 Super Easy Ways to Stop Air Pollution - Conserve Energy Future

Pollution has an adverse impact on wildlife and will continue to do so well into the future. A report in "New Scientist" states that pollution is the primary cause of the extinction of various species of butterflies and other insects in Great Britain.

Understand and quantify the influence of the coupling between chemical, dynamical, and radiative processes involving stratospheric chemistry. Priority Science Area 2: Quantify emissions and deposition of gases and particles in a changing Earth system. Emission and deposition processes govern concentrations and spatial distributions of gases and particles in the atmosphere. A predictive capability of these distributions is key for assessing the impacts of atmospheric processes on human and ecosystem health, weather, and climate. Research is needed to reduce uncertainties in emissions for known sources and constrain emissions of poorly understood constituents e. Sources of atmospheric constituents change as humans make new decisions about technology, energy systems, pollution control, agriculture, and transportation. Natural sources respond to meteorological conditions, changes in land use, longer-term changes in climate, and biogeochemical and ecosystem feedbacks. Actions needed to address these key scientific gaps include: Better determine emissions from both anthropogenic and natural sources and their spatial and temporal variations and trends. Identify mechanisms and measure rates by which wet and dry deposition removes aerosol particles and trace gases from the atmosphere. Determine the role of meteorology, including temperature, precipitation, and extreme events, on emissions and removal of atmospheric species. Determine the role of global change and societal choices including changes in climate, energy choices, and land use on the emissions and removal of atmospheric species. Priority Science Area 3: Advance the integration of atmospheric chemistry within weather and climate models to improve forecasting in a changing Earth system. Aerosol particles play a critical role through their influence on the growth, formation, and development of clouds and precipitation. Changes in atmospheric dynamics and circulation that are linked to changes in atmospheric composition e. The Future of Atmospheric Chemistry Research: The National Academies Press. During the past decade of intensive aerosol-cloud-climate research, some scientific gaps have been closed, and additional processes have been identified that still elude quantification. As with many complex systems in intermediate stages of understanding, this progress has not yet reduced the overall magnitude of uncertainty, leaving major deficiencies in the ability to project future climate. The chemical reactions involving aerosol particles and gases determine not only particle formation but also the processes by which climate-relevant trace species are removed from the atmosphere. Atmospheric chemistry, therefore, remains the crucial component that allows estimates of the atmospheric lifetimes of many species, and consequently the ability of pollution to accumulate in the atmosphere and thus influence climate and weather. Some, but not all, studies of regional climate change seasonal-to-interannual or longer-term projections or weather forecasting have included heterogeneously distributed aerosol particles or ozone in their models. The atmospheric chemistry community needs to continue to work with the climate and weather research communities in several major areas so that knowledge of the many roles that atmospheric composition plays in climate and weather can be built into dynamical models. The atmospheric chemistry community should expand interactions with the climate and weather research community to address these key scientific gaps: Determine the global distributions and variability of atmospheric trace gases and aerosol particles, and better understand their climate-relevant properties. Understand the role of aerosol particles as a modulator of cloud microphysics and precipitation efficiency in natural and anthropogenically perturbed environments. Develop accurate descriptions of the complex chemical and physical evolution of atmospheric constituents that can be implemented in models for robust prediction of the impact of the chemical state of the atmosphere on climate and weather. Priority Science Area 4: Understand the sources and atmospheric processes controlling the species most deleterious to human health. Atmospheric gases and particles have documented effects on multiple adverse health outcomes, including chronic and acute effects that can lead to mortality and different types of morbidity. It is estimated that air pollution is responsible for 1 out of 8 premature deaths more than 7 million annually worldwide.

However, the specific chemical species that cause these various effects and potential synergisms among them are not well understood. Advanced atmospheric chemistry research techniques e. The atmospheric chemistry community should expand interactions with the exposure, epidemiology, and toxicology research communities to address these key scientific gaps: Develop mechanistic understanding to predict the composition and transformations of atmospheric trace species that contribute to impacts on human health. Quantify the distribution of atmospheric constituents that impact human health. Determine what unique sources and chemical reactions occur in indoor environments that have implications for atmospheric chemistry and human health. Priority Science Area 5: Understand the feedbacks between atmospheric chemistry and the biogeochemistry of natural and managed ecosystems. Biogeochemical cycles control the elements that are necessary for life and connect chemistry in the atmosphere with oceans, the solid earth, and the terrestrial and marine biospheres. This exchange of compounds is tightly coupled to global food security e. These exchange processes are influenced by human activity and global climate and are directly tied to natural and managed ecosystem health. In addition, biogeochemical cycles and ecosystem health play a central role in climate by regulating carbon uptake by the biosphere and the exchange of greenhouse gases and aerosol particle precursors. Finally, the biogeochemical cycling of toxic constituents e. Major scientific goals include understanding the cycling of elements through the various components of the Earth system, the impacts of deposition of atmospheric nutrients and contaminants to natural and managed ecosystems, and the feedbacks of ecosystems onto the atmosphere. New laboratory and field studies are needed to characterize these atmospheric chemistry processes for future use in predictive models. The atmospheric chemistry community should expand interactions with the ocean, land surface, and other Earth science research communities to address these key scientific gaps: Page 8 Share Cite Suggested Citation: Identify and quantify the chemical composition, transformations, bioavailability, and transport of nutrients and contaminants in the global atmosphere and their interactions with the biosphere. Identify important feedbacks between atmospheric chemistry and the biosphere under global change. In summary, the judgment of the Committee is that the field of atmospheric chemistry has been expanding for the past several decades, but the amount of funding for research in the field has not increased substantially. In this context, the Committee made recommendations to help support research for the next decade to enable the Priority Science Areas identified in Chapter 5 see Figure S. Development of Tools for Atmospheric Chemistry Research Instruments used in laboratory experiments and deployed for remote and in situ measurements are key tools used by atmospheric chemists. New analytical techniques, instruments, and instrument platforms are needed to support the Priority Science Areas above. Similarly, a range of modeling tools is central to the development of a predictive understanding of atmospheric chemistry. NSF will play an essential role in fostering the development of the next generation of many of these tools, as could industry and other government funding agencies. Page 9 Share Cite Suggested Citation: However, there are generally few of these opportunities for high-risk, high-reward proposals for instrument development in atmospheric chemistry at NSF. The Committee encourages the Atmospheric Chemistry Program to consider mechanisms for providing more support for development of instruments and measurement platforms by working more closely with other NSF programs and directorates. Viable mechanisms need to also be available within the Atmospheric and Geospace Sciences Division to submit proposals for new instruments and techniques that take extended periods of time to develop and test before they can be used to generate accurate and reliable data. Page 10 Share Cite Suggested Citation: This diversity of approaches is needed to develop a broad toolbox to understand the complex problems in atmospheric chemistry. The disparate spatial and temporal scales of chemistry and transport in the atmosphere present a major challenge in building modeling tools and methodological approaches that effectively integrate across the scales. NSF should continue its investments in atmospheric chemistry and tracer-transport model development and applications, from developing and incorporating theoretical chemistry to predicting global composition. NSF could also emphasize endeavors that focus on modeling across spatial scales urban to global and temporal scales weather to climate to promote collaboration and coordination across agencies and different NSF divisions. The National Science Foundation should ensure adequate support for the development of the tools necessary to accomplish the scientific goals for the atmospheric chemistry

community, including the development of new laboratory and analytical instrumentation, measurement platforms, and modeling capabilities. Research at long-term field sites representing different environments is not adequately supported in the United States. Changing this would require a large scale coordinated effort and commitment by the research community and multiple funding agencies. Established research sites with core measurement capabilities and long-term knowledge about regional photochemistry, meteorology, ecosystem properties, and biosphere-atmosphere exchange processes are a critical resource for making and interpreting new measurements. A distributed set of research sites that take advantage of existing infrastructure in other programs as much as feasible would be most cost effective. An interagency panel could prioritize the long-term sites and determine the required infrastructure; whether the sites would be centrally managed or managed by individual principal investigators; core measurements to be included with each site; procedures for the archiving of the samples collected at these sites; and criteria and a review process to support funding decisions. Page 11 Share Cite Suggested Citation: The National Science Foundation should take the lead in coordinating with other agencies to identify the scientific need for long-term measurements and to establish synergies with existing sites that could provide core support for long-term atmospheric chemistry measurements, including biosphere-atmosphere exchange of trace gases and aerosol particles. Answers to research questions are often apparent only after intensive data analysis; for example, the synthesis and analysis of existing datasets can be applied to test models across various regimes and guide future research directions. However, funding is often insufficient to mine field data deeply for thorough analysis or to re-analyze existing datasets. Longer grant periods or supplemental installments to afford principal investigators the time and effort to continue analyses may be needed to accomplish these efforts. NSF should also encourage and support new projects that use data mining to advance the science—a cost-effective way to advance the atmospheric chemistry research agenda. For a fraction of the cost of a field study, NSF could dedicate funds to encourage analysis of existing high-quality datasets using powerful data mining techniques developed by the computer science community and perform detailed intercomparisons using satellites, field measurements, and models. The National Science Foundation should encourage mining and integration of measurements and model results that can merge and exploit past datasets to provide insight into atmospheric processes, as well as guide planning for future studies. These datasets require increasingly large resources to manage. Mechanisms are needed for effectively and efficiently archiving, sharing, and mining data, including making them easily available to the broad scientific community and to the public. The current availability of datasets varies substantially; some are archived at data centers while others are available only upon request from individual scientists. NSF-funded research does require data management plans, but no central coordinated data archive and sharing system exists for atmospheric chemistry research. Page 12 Share Cite Suggested Citation: The Committee envisions a centralized system for providing and supporting data management for atmospheric chemistry. Apart from providing facilities for data archiving, accessibility, and transparency, a centralized responsibility could assure that datasets are managed with expert preparation and fostering, along with sufficient and standard documentation and metadata. NSF could take the lead in coordinating with other federal and state agencies to establish such a system. The National Science Foundation NSF should establish a data archiving system for NSF-supported atmospheric chemistry research and take the lead in coordinating with other federal and possibly state agencies to create a comprehensive, compatible, and accessible data archive system. Imperative for Collaborations Understanding and addressing challenges faced by society will rely on close integration of knowledge from multiple disciplines, including the physical, biological, and social sciences and engineering. While there are examples within NSF of programs that encourage interdisciplinary work, the Committee is concerned that mechanisms to support interdisciplinary work may encounter barriers due to NSF institutional and review structures. Interdisciplinary research often requires sustained long-term funding, which can be difficult to achieve using the typical 3-year NSF grants. Given the important cross-disciplinary aspects of the science priorities for atmospheric chemistry, the NSF Atmospheric Chemistry Program should explore multiple options to address these well recognized challenges that the Foundation faces. In some NSF directorates, an effective approach has been to fund either virtual or on-the-ground centers that draw together scientists who have different expertise and are often geographically dispersed. Both single

agency and cross-agency efforts are an essential component of the Priority Science Areas identified above. The National Science Foundation should improve opportunities that encourage interdisciplinary work in atmospheric chemistry and facilitate inter- Page 13 Share Cite Suggested Citation: This improvement may include support of focused teams and virtual or physical centers of sizes appropriate to the problem at hand. The past success in understanding and applying atmospheric chemistry should be leveraged to improve air quality in many parts of the world.

4: Reducing pollution | National Pollutant Inventory

Pollution is now a common place term, that our ears are attuned to. We hear about the various forms of pollution and read about it through the mass media. Air pollution is one such form that refers to the contamination of the air, irrespective of indoors or outside. A physical, biological or.

Request information Apr 26 Read Times As concerns about the state of the environment continue to escalate, politicians, governments and businesses are all being encouraged to address the issue and reduce pollution levels. However, there are still many parties out there who try and play down the effects of climate change and pollution, whether it be because of misled beliefs or more likely vested financial interests. What would happen if the climate change deniers succeeded? What would happen if we neglected the problem of pollution indefinitely? Air Pollution Concerns about the quality of the air we breathe have long been an issue in Britain. As far back as the 13th century, legislators outlawed the combustion of coal for fear of the frightful fumes it released. Of course, the economic benefits ostensibly outweighed the environmental and health concerns, and humanity has leapt from one pollutant practice to the next in the intervening near-millennium. Should air pollution go unchecked, we can expect our skies to become foggier and our oxygen harder to breathe. Not only will this mean personal discomfort and hazard as is already experienced by more than a billion people in China and other Asian countries , but could also play havoc with agriculture. Furthermore, over-pollution of the skies would eventually block out the sun, not only leaving us cold and dark, but without any way of growing crops and feeding livestock. As well as the direct threat to our survival this obviously poses, it would also threaten our economy - as the European Environment Agency EEA has already found. Water pollution is generally caused by industrial run-off, unsanitary sewage deposits or disastrous oil spills. And the food chain has an uncanny way of coming back to bite you in the behind " though water pollution may only initially affect marine life, the laws of nature dictate that big fish eat the little ones. As the biggest land-dwelling fish of them all, humans are at risk of seeing the food pyramid topple beneath them if pollution continues. Practices like fracking may even sidestep the food chain altogether and directly contaminate our drinking water, as has latterly been confirmed in four US states. A new report suggests that the practice could cause greater levels of soil pollution , too. Since the soil is the very foundation upon which we stand and upon which we depend to grow all of our crops, it might be an idea to take care of it. If unchecked, soil pollution could lead to extinction of all types of life upon planet Earth! including us. Read comments0 Do you like or dislike what you have read? To leave comments please complete the form below. Providing the content is approved, your comment will be on screen in less than 24 hours. Leaving comments on product information and articles can assist with future editorial and article content. Post questions, thoughts or simply whether you like the content.

5: World Wide Air Pollution in the Future

Air Pollution: Current and Future Challenges Despite dramatic progress cleaning the air since , air pollution in the United States continues to harm people's health and the environment. Under the Clean Air Act, EPA continues to work with state, local and tribal governments, other federal agencies, and stakeholders to reduce air pollution.

The extent of air pollution of course combines with terrestrial and aquatic pollutions, and even on to solar system and universal pollution. If we ourselves are to stop it, government education would and could help a little. The two main gases in our air are not pollutants at this time. Others are in small quantities and pose little threat until they upset ecosystems. The prime candidates are carbon dioxide, ozone and methane , although the latter is not sourced by humans, but instead lies beneath oceans as a rather benign, but massive threat. The many polluting "colleagues" of these gases are present in lesser quantities. We all know that some of them are lethal to us and other organisms. Carbon monoxide poisoning mentioned later in car emissions and the gases that governments have licensed so that we could harm each other are major threats despite their small volumes. Global warming of course is the main threat from CO₂ build-up, as well as methane and several others. Gases such as these and even nitrogen can kill oxygen breathers by blanketing a low-lying area such as a camp site. It is however accepted, both scientifically and rationally, that, whatever your reigning ruler might say, global warming is just about to cause a greater menace than we have faced for generations. Vehicle emissions via Shutterstock Carbon dioxide and several other gases cause a blanket effect on the earth. If we use a CO₂ fire extinguisher, it blankets the flames, robbing them of vital oxygen. In the case of the atmosphere, the same gas allows heat entry but prevents the loss of heat that would otherwise be reflected from the earth back into space. Strangely, sulphur dioxide allows more heat to escape and therefore its prevalence in past pollutions could have helped to prevent global warming! Pollution from carbon dioxide results from cars and other vehicles hence the proscribing of high emissions , fossil fuel burning largely in power stations and from respiration, particularly bacterial. By far the major cause currently is Chinese, Indian and US power stations. Partly from international cooperation in this last case and also because we have no alternative, most countries signed up in to a great international agreement called the Kyoto Protocol. This is now outdated and it is hoped that soon, we can concoct a more concrete agreement, especially from those countries who failed to measure up at Kyoto. The follow-up conferences in Bali, Cancun, Copenhagen and last December in Durban did little to stir the major defaulters into action, but have prepared developing countries for their huge responsibility to cut back on CO₂ emissions , just as their economies are growing. Pollution from sulphur dioxide and several other sulphurous gases has also been traced to power stations, but such gases have been removed from emissions long ago in most cases. This is a classic case. Sweden began complaining to the UK and others 60 years ago that their forest loss and several other problems seemed to be caused by industrial pollution from British factories. It turned out that acid rain was caused by SO₂ in the local atmosphere and that similar problems caused Canadian effects from US sources. The Black Forest in Germany was threatened for a time by the emissions from many countries to the windward. Buildings, lakes and trees, along with fish suffering from watery derivatives, were the main victims of a severe acidic reaction. Nitrogen dioxide has a similar history to SO₂, as it also results from combustion. Cars emit a lot of NO₂, along with the infamous carbon monoxide. The demise of cars built as we know them at the present time could lead to a great decrease in some of these major pollutants, alongside the carbon dioxide we already try to limit with emission controls in new cars. Air pollution in a city via Shutterstock However lead and one or two other heavy metals have been carried by airborne pollution in the past and no doubt pose a threat alongside cadmium and several others at the present. Also present in the air are other solid particles, carbon being major among them. The health of humans is directly affected by such particles, but our remit here is less noticeable events. If masked by carbon or other deposits, plant leaves cannot operate and produce no carbohydrate. That means death, as it did when asteroids almost cut off this lifeline for years at a time in the past. The Sun was blocked out, which was a major cause for deaths, but deposits on leaves could equally have caused a food chain failure when deposits covered the sky and the ground. It is perhaps at the finale that we should add another of the less

obvious, more insidious air pollutants. The POPs are volatile but relatively insoluble, hitching a ride on solid particles to travel enormous distances to countries that have never produced them. They are of course the Organic Pollutants that Persist in the environment. Their main feature is their toxicity, with even some carcinogenic properties, but there are a vast range of them from PCBs to Agent Orange. Their effects may still be very much in the environment but awareness of their presence in animal fats many being fat soluble is leading to a small decrease in their known effects on humans. Other air pollution events have included CFCs chlorofluorocarbons. They were used in fridges, but discarded when the ozone in the atmosphere was destroyed by them. Ozone is strategic in preventing ultraviolet light from entering the atmosphere and causing big increases in mutation rates. There are many such candidates in air pollution.

6: Ways to Prevent and Reduce Air, Water, and Land Pollution | Soapboxie

The Symposium on the Global Effects of Environmental Pollution has performed an important task; it has helped to determine the world-wide impact of certain types of local pollution and has uncovered certain unsuspected effects that might hold dangerous implications for the future.

Subscribe Pollution, throwing the natural environment off balance Of all living things, humans have the most impact on their environment. They change their habitat to suit their needs, more so than most other species. When a growing population finds there are fewer resources than before, it responds by expanding cities and farmland, throwing the natural environment off balance. Many human activities that relate to agriculture, transportation, and industry create different kinds of pollution. Whether they are released into the water, the air, or the ground, pollutants waste no time spreading throughout an ecosystem. Since water is always circulating through the environment, it transports the pollutants it contains from one area to the next. A pesticide that is sprayed on a field, for example, seeps into the groundwater, finds its way to a stream, and finally ends up in the ocean. These toxic substances harm aquatic plants and animals, and also infect the food chain, causing certain plant and animal species to become extinct. They can also contaminate humans who eat fish. Even though dumping garbage in the ocean is strictly forbidden, many countries release their untreated sewer waste and dispose of their garbage into the water. In addition to this, more than 6 million tons of oil are accidentally spilled into the ocean every year. Many of these substances are not biodegradable, which means that microorganisms in the ground cannot break them down. Things like metal cans, glass, and most plastics accumulate in the environment. That is why it is important to recycle and to reuse things instead of throwing them out. Most nonbiodegradable pollutants in the ground come from industries, which emit thousands of different substances. Some of these are highly toxic chemicals that seep into the ground and contaminate watercourses. In spite of efforts to regulate garbage disposal and farming practices, countries around the world are continuing to contaminate more and more of their soil. More than half of that garbage comes from paper packaging, metal, glass, and plastic that can be recycled or reused. Almost a quarter of household garbage is kitchen waste like vegetable peels. This kind of garbage can be turned into compost, a natural fertilizer that can be used to enrich the soil of gardens or cultivated fields. Automobile engines and power plants burn combustible fuels like gasoline and coal and allow toxic gases and smoke to escape into the air. Still others help to create acid rain, a phenomenon that has disastrous effects on lake and forest habitats. Air pollution is not limited to industrial areas. Depending on the direction of the wind and its force, air pollutants may even spread to other countries very far from the source of the pollution.

7: Pollution, throwing the natural environment off balance | Visual Dictionary

Environmental and Pollution Science, Third Edition is designed to give readers the tools to be able to understand and implement multi-disciplinary approaches to help solve current and future environmental pollution problems.

Share via Email Air pollution in London. The film was abandoned by its studio and largely ignored at the box office, but its subsequent cult status might be in danger once again, this time from the overbearing reality of present events. Researchers from Beijing University and Yale School of Health published research last month showing that people who live in major cities “ which is, today, most of us ” are not only suffering from increases in respiratory illnesses and other chronic conditions due to air pollution, but are losing our cognitive functions. The study showed that high pollution levels lead to significant drops in test scores in language and arithmetic, with the impact on some participants equivalent to losing several years of education. Other studies have shown that high air pollution is linked to premature birth, low birth weight , mental illness in children and dementia in the elderly. And the air we breathe is changing in the long term, as well as the short. At higher levels, CO2 clouds the mind: As we come to understand more about the effects of CO2, we have been measuring more of it, and finding that as it increases outside, it increases inside, too. Outdoor CO2 already reaches ppm regularly in industrial cities; indoors, in poorly ventilated homes or school workplaces, it can regularly exceed 1,ppm. Schools in California and Texas, when measured in , regularly exceeded 2,ppm in the daytime. Volkswagen notoriously spent years creating complex, embedded software to bypass emissions tests, with the result that cars certified for use in the US actually emitted nitrogen oxide at 40 times the legal limit. Multiple studies have shown that the way in which social media regulates our information intake for profit leaves us more divided , less politically aware , and increasingly prejudiced and violent. YouTube recently suggested I should follow an archive clip of US anchorman Walter Cronkite warning about climate change all the way back in , with a minute conspiracy lecture titled How the Global Warming Scare Began. Mental pollution comes in many forms. Want to cut air pollution? Get rid of your car John Vidal Read more The US Environmental Protection Agency announced recently that it was reconsidering Obama-era rules governing the emission of mercury from coal-fired power plants. Symptoms of mercury poisoning include emotional instability, insomnia, reduced cognitive function and memory loss. But then those in charge of our affairs currently have their own chemical load to shed. Since the s, one common pollutant we have managed to curtail is lead, mostly by excluding it from paint, plumbing and petrol. As a result there has been a 4. Those who grew up in Europe and North America between and “ the cohort who are running things right now “ were regularly found to be carrying 20 micrograms per decilitre levels of lead in their bloodstream, which can lead to far greater levels of long-term cognitive impairment than those reported in studies of contemporary air pollution. If you want one simple explanation for the wildly differing political attitudes between current generations, and some of the irrational paths we seem hellbent on taking at present, you could do worse than take lead poisoning into account. Brain damage, it seems, is the one thing the baby boomers are willing to pass on to their kids. Technology and the End of the Future Topics.

8: Future Effects of Pollution | Sciencing

41 Super Easy Ways To Stop Air Pollution. The air that we breathe today is full of toxic and hazardous pollutants. Pollution in the environment could leave mother Earth sapped of its beauty and biodiversity.

Reading Mode Share This What is the world wide trend in air pollution? On the surface North America and Europe have been gradually improving. However, that is due to often moving industry to other countries such as China or India where air pollution is a bit more of a problem. Air pollution is a major health risk that may worsen with increasing industrial activity. At present, urban outdoor air pollution causes 1. What is the world wide trend in air pollution? The atmospheric chemistry general circulation model EMAC was used to estimate the impact of anthropogenic emission changes on global and regional air quality in recent and future years , , and The emission scenario assumes that population and economic growth largely determine energy and food consumption and consequent pollution sources with the current technologies. This scenario is chosen to show the effects of not implementing legislation to prevent additional climate change and growing air pollution, other than what is in place for the base year , representing a pessimistic but plausible future. To identify possible future hot spots of poor air quality, a multi pollutant index MPI , suited for global model output, was applied. It appears that East and South Asia and the Middle East represent such hotspots due to very high pollutant concentrations, while a general increase of MPIs is observed in all populated regions in the Northern Hemisphere. In East Asia a range of pollutant gases and fine particulate matter PM_{2.5}. Around the Persian Gulf, where natural PM_{2.5}. The population weighted MPI PW-MPI , which combines demographic and pollutant concentration projections, shows that a rapidly increasing number of people worldwide will experience reduced air quality during the first half of the 21st century. Following this business as usual scenario, it is projected that air quality for the global average citizen in would be almost comparable to that for the average citizen in East Asia in the year , which underscores the need to pursue emission reductions. Air pollution would increase in Europe and North America, but to a much lesser extent than in Asia, due to the effect of local mitigation policies that have been in place for over two decades. The results show that in and , under the business-as-usual scenario studied, East Asia will be exposed to high levels of pollutants, such as nitrogen dioxide, sulfur dioxide and fine particulate matter PM_{2.5}. Northern India and the Arabian Gulf region, on the other hand, will suffer a marked increase in ozone levels. The analysis now published is the first to include all five major air pollutants know to negatively impact human health: The scientists considered pollutants released through human activity, as well as those occurring naturally such as desert dust, sea spray, or volcanic emissions. In the latter locations this is due to a combination of natural desert dust and man-induced ozone. The effect of anthropogenic pollution emissions are predicted to be most harmful in East and South Asia, where air pollution is projected to triple compared to current levels. For further information see Article or Pollution.

9: What Would Happen if Pollution Doesn't Stop? Pollution Solutions Online

Air pollution is a major health risk that may worsen with increasing industrial activity. At present, urban outdoor air pollution causes million estimated deaths per year worldwide, according to the World Health Organization.

We are the only species that systematically destroy our own habitat. Environmental pollution comes in various forms, such as: Everyone is a stakeholder as we are all inhabitants of this one and only mother earth. Each person can contribute something to advance environmental pollution mitigation measures. Environmental protection means caring for our resources and subsequently for ourselves and ensuring a sustainable future for generations to come will have a better environment. Help stop pollution today. Although on an individual basis, we can help combat pollution in our own immediate environment, efficient control can be best institutionalized through legislation. Thus, most countries have already addressed the issue by passing some form of pollution prevention measures. Phytoremediation- Solution to Contaminated Environment Averting the onset of pollution in any area; i. This calls for a conscientious effort to adopt good practices or habits by the people, the passage and the proper implementation of appropriate government laws and strict compliance especially by potential industrial pollutants. If there are no pollutants, there will be no pollution. And yet, this is easier said than done. Certain bad habits are entrenched and industrial development somehow carries with it the concomitant burden of pollution. The cost to business and its commercial ramifications make this rather simple preventive approach quite complicated and more difficult to implement. Everyone can help by self education and by adopting good and healthy practices. It is also important that we help raise awareness about the significance of environmental issues, their dire consequences and what can be done. Bioremediation- The New Age Cleansing Technology of the Environment Every action or inaction of any person in regard to her or his surroundings has an effect- be it good, neutral or bad- on the environment. Nature already provides for our needs. Whatever we do to it gets back to us. If we are friends of the earth, it will also be friendly to us. By becoming aware and doing the right action, we choose to be part of the solution. What comes to mind now to serve as reminders include the following: Use unleaded gasoline in your cars. Keep your car properly maintained to keep it in good running condition to avoid smoke emissions. Share a ride or engage in car pooling. Instead of using your cars, choose to walk or ride a bicycle whenever possible. With this eco-friendly practice, you will also be healthier and happier by staying fit. Never use open fires to dispose of wastes. Adopt the 3Rs of solid waste management: Inorganic materials such as metals, glass and plastic ; also organic materials like paper, can be reclaimed and recycled. This takes into account that the proven solution to the problem of proper waste management especially in third world countries is proper disposal in waste bins for collection and not in the street where it could fall into drains , waste segregation and collection, and recycling. Start composting brown leaves in your yard and green scraps from your kitchen. It will reduce waste while improving your yard and garden soils. Live green by using green power supplied abundantly and freely by wind and the sun. Hang your laundry to dry to minimize use of gas or electricity from your dryers. Enjoy fresh air from open windows to lessen the use of air conditioning system. Patronize local foods and goods. In this manner, transporting goods and foods prepared with GMOs which uses fuel from conventional energy sources will be minimized. Use eco-friendly or biodegradable materials instead of plastic which are made up of highly toxic substances injurious to your health. Create your green space. Plant more trees and put indoor plants in your homes. They clean the air, provide oxygen and beautify your surroundings. Thus, care for them and by protecting them, especially the big trees around and in the forest, you protect yourself and your family, too. Have a proper waste disposal system especially for toxic wastes Take very good care of your pets and their wastes. Never throw, run or drain or dispose into the water, air, or land any substance in solid, liquid or gaseous form that shall cause pollution. Do not cause loud noises and unwanted sounds to avoid noise pollution. Do not litter in public places. Anti-litter campaigns can educate the populace. Industries should use fuel with lower sulphur content. Industries should monitor their air emissions regularly and take measures to ensure compliance with the prescribed emission standards. Industries should strictly follow applicable government regulations on pollution control. Organic waste should be dumped in places far from residential

areas. Conclusion Breathing is life. We know that we will survive without food for several weeks and without water for few days, but without oxygen, we will die in a matter of minutes. The oxygen, the air we breathe sustains us. So, let us make today and everyday a good day for everyone. Allow the earth to have more clean air. Earth eventually had an atmosphere incompatible with life. Nevertheless, life on earth took care of itself. In the thinking of the human being a hundred years is a long time. It was a whole different world, but to the earth, a hundred years is nothing. A million years is nothing. This planet lives and breathes on a much vaster scale. If we are gone tomorrow, the earth will not miss us. We must help fight Global Warming by doing the following steps:

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