

**LEADER
SALTA**

**FACILITATOR'S
GUIDE**

ENVIRONMENTAL HEALTH II



SESSION OVERVIEW

SESSION DESCRIPTION: Air Toxics are substances known to have adverse effects on human health and the environment. In this session participants will learn about the sources and health impacts of Air Toxics affecting EHC's communities. Participants will also learn about EHC's current efforts to combat community air toxics through community driven land use and sustainable energy campaigns, and see how EHC's goal for prevention (pollution prevention, the precautionary principal and cumulative impacts) guides our work in these areas.

CORE CONCEPTS:

1. **The air we breathe:** Air toxics can damage human health and the environment, including increased asthma and cancer.
2. **Cumulative Impacts/Precautionary Principle/Pollution Prevention:** The three principles for government regulations to protect people from toxic pollution.
3. **Green Energy/Green Jobs Campaign:** Sustainable energy generation and energy efficiency reduce air pollution and save money.

KEY DEFINITIONS/TERMS:

1. **Toxic Air Pollutants, or Air Toxics,** are substances known to cause or are suspected of causing cancer, birth defects, reproduction problems, and other serious illnesses.
2. **Cumulative Impacts:** Two or more individual effects, which when considered together, are considerable - or that compound or increase other environmental impacts. (CA State CEQA Guidelines)
3. **Pollution Prevention:** To avoid, eliminate, or reduce pollution at its source.
4. **Precautionary Principle:** When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof. (1998 Wingspread Statement on the Precautionary Principle)

Agenda

Section	Time
1. Review & Introduction to Session	15 minutes
2. Air Toxics & Diesel Pollution	25 minutes
3. Protecting Human Health from Diesel Pollution: Case Study (Barrio Logan)	20 minutes
4. Global Climate Change/Climate Justice	45 minutes
5. Energy Efficiency in Your Home	35 minutes
6. Evaluation	10 minutes
Total Time	150 minutes (2-1/2 hours)

EHC VICTORY(IES)

FEATURED:

Parking ban and rerouting of diesel trucks in Barrio Logan (as part of a larger community-driven land use effort), energy assessments

ICON LEGEND



Show Slide

Marks which powerpoint slide corresponds to the curriculum



Post/Document

Denotes when something should be posted or a discussion should be documented and posted



Alloted Time

Shows how much time is allotted for each section in minutes



Tools

Lists the materials needed for a particular section



Activity

Shows when something is used for an activity

Environmental Health II Session Toolbox

Click here for easy-to-reproduce handouts, activity materials, power points, and other documents for the session.

Environmental Health II PowerPoint



Climate Justice Action Worksheet



True False Question Sheet



True/False/Don't Know Cards



NOTEBOOK MATERIALS

Energy Assessment Checklist

Session Evaluation

Comic Book Evaluation

RELATIONSHIP TO PRIOR SESSION(S)

The following concepts will continue to be explored

1. EHC's Mission Statement – third sentence: We organize and advocate to **protect public health** and the environment **threatened by toxic pollution**
2. **Environmental Justice:** The right of all people to live, work and play in a clean and safe environment
3. EHC Goals for Health, Government, and Corporate Accountability will continue to be explored and the goals for Environment and Prevention introduced
 - a. **Prevention:** To establish the precautionary principle and pollution prevention as the bases of all environmental and public health policies
 - b. **Environment:** To preserve and protect the integrity of the ecosystem
4. Social Change for Justice Model will be reviewed

SESSION CHECKLIST

Staffing needs:

- Facilitator
- EHC Leader from Barrio Logan or staff
- EHC staff for Global Climate Change/Climate Justice presentation
- EHC Leader or staff for Energy Efficiency presentation
- Scribe

Pre-Session Preparation:

- Make certain all presenters have rehearsed their presentations and that they fit within the allotted times
- Make True/False/Don't Know Cards for participants
- Make copies of Climate Justice Action Worksheet handout for each group

Equipment/other needs:

- LCD projector
- Laptop computer
- Easel paper/flip chart markers
- Energy efficiency handouts

1 Review & Introduction to Session

Total Time: 15 minutes

Participant Objectives:

1. Recognize relationship of EHC's work to its mission and goals
2. Know importance of leaders and the SCFJ model



Tools:

- PowerPoint Slides 1-7



HOUSEKEEPING

- a. When participants arrive have them collect their nametag.
- b. **Vote on best comic:** when participants arrive have them lay out their finished comic with their name written on the back. During dinner each participant will vote on the one they feel best represents the previous session.
- c. Post daily core concepts



WELCOME/REVIEW

- a. **Welcome** participants back to Leader SALTA and to the second of the two sessions on Environmental Health.
- b. **Review prior session.** Ask participants if they have any questions/comments concerning the prior sessions. Ask other participants to help answer/clarify the questions.

CONNECTION BETWEEN PRIOR SESSIONS AND THE CURRENT SESSION

- a. **Prior Sessions:** In Session 3, the meaning of **environmental health** was explored along with the early history of EHC's Campaign to Eliminate Childhood Lead Poisoning (now known as the Healthy Kids Campaign)
- b. **Current Session:** In this session, we will focus on **air pollution, climate change,** and re-examine **three of EHC's goals** (health, government, corporate accountability)
 - **Health:** to *eliminate* environmental and public health degradation caused by toxic pollution
 - **Government:** to demand government intervention to protect human and environmental rights
 - **Corporate Accountability:** to establish mandates that corporations are accountable for their actions that affect the public





INTRODUCE TWO ADDITIONAL GOALS: PREVENTION AND ENVIRONMENT

- **Prevention:** to establish the precautionary principle and pollution prevention as the bases of all environmental and public health policies
- **Environment:** to preserve and protect the integrity of the ecosystem

Icebreaker: Bus Station

Facilitator calls out various themes and people have to find the “bus” that they belong on. Point to an area of the room as each “bus” is called and have people go to that area if they are in that group. Start broad and then get more focused on the topic that will be talked about. Feel free to adapt as necessary.

- I prefer chocolate bus here; I prefer vanilla bus over there
- EHC leader here/ What’s EHC?
- I or someone in my household has asthma/ no asthma
- I have seen air pollution before / never seen pollution before
- I have had an energy assessment in my home/ never had an energy assessment
- I mainly drive to get places / I mainly use public transportation
- I am ready to learn more about Environmental Health / I’m outta here!!

2 Air Toxics & Diesel Pollution

Total Time: 25 minutes

Participant Objectives:

1. Review current knowledge about Air Pollution
2. Understand the impacts and sources of air toxics



Tools:

- » PowerPoint Slides 8-18
- » Environmental Health True/False Questions Sheet
- » True/False/Don't Know Cards

Air Pollution True/False

- a. Be sure each participant has different colored cards with True, False, and Don't Know written on each.
- b. Read a statement from the list (handout) and have participants hold up the appropriate sheet corresponding to the statement. Everyone should see each other's sheets and decide as a group what the correct answer is.



DEFINE AIR TOXICS

Ask participants what comes to mind when they think of toxic air pollution? Solicit several responses. **Define Air Toxics:** Toxic Air Pollutants, or Air Toxics, are substances known to cause or are suspected of causing cancer, birth defects, reproduction problems, and other serious illnesses.

SOURCES OF AIR TOXICS



Ask participants which San Diego communities have the most toxic air pollution. [Low-income, communities of color – even though air pollution can affect larger areas, it is worse in these neighborhoods.]

- a. **Major polluters.** Red dots are major emitters of air toxics. Because they release such large quantities of air toxics, they are specially regulated with the goal of greatly reducing their emissions.
- b. **Other air polluters.** Purple dots represent other industries that have air pollution permits including: chemical factories, paint manufacturers, plating shops, autobody shops, printing shops, gas stations.
- c. **Freeways in red:** Motor vehicle air pollution from cars and trucks.
- d. **Cancer risk from air pollution.** Areas with highest cancer risk from air pollution are shown in the darkest brown color in the background.

CUMULATIVE IMPACTS



- a. **Mixed used zoning.** Close-up of Old Town National City that shows many red dots, small dots, freeways. This house is located next to auto body shop. Auto body shops are a major problem in Old Town and a survey by EHC leaders revealed that there are 34 auto body and auto-related shops in the neighborhood and only 9 have required air permits – 74% are not permitted. In communities like Barrio Logan and National City, where there are so many sources of toxic pollution, regulators need to look at the **cumulative impacts** of all of these smaller polluters and set special standards for pollution reduction.



- b. **Cumulative Impacts Indicators** go beyond just exposure to toxic chemicals. Combined cumulative impact indicators. They also include socio-economic information like poverty, language and ethnicity, school attendance and access to health care.

DIESEL PARTICULATE MATTER

Although there are many types of air toxics, the **focus of this portion is on diesel.**



- a. **Sources of diesel pollution**
Ask participants to name some of the sources of diesel pollution in their neighborhoods. Add to list: fork lifts and other cargo-handling equipment used at the Port Terminals, portable power generators, electricity generation.



- b. **Composition of diesel exhaust**
Ask participants what diesel exhaust looks like [black smoke].
- ▶ **Diesel engines emit a complex mix of pollutants, the most visible of which are very small carbon particles or “soot”**
 - ▶ **Diesel exhaust also contains over 40 cancer-causing substances, most of which are stuck to the soot particles**
- What we see as the black exhaust are many, many very small particles of carbon, but stuck onto these particles are a complex mix of other toxic chemicals – up to 40 different ones have been identified.



- c. **Size of carbon particles**
The respiratory system has ways of keeping large particles out of the lungs [hair in the nose, mucous, cilia] but the particles of diesel exhaust are so small that these systems don't work.

Particles larger than 10 microns are generally filtered out. PM10 is referred to as coarse particulate matter, PM2.5 is referred to as fine particulate matter, and particulate matter less than 1 micron in diameter is called ultra-fine. 80-95% of diesel exhaust is less than 1 micron. We see exhaust as black because there are so many particles.



- d. **Route of exposure**
One reason diesel pollution is such a health risk is because it's released close to the ground, close to where people are.

Although some of the particles get stuck in the air sacs where they damage the lung, many of the ultra-fine particles and the pollutants stuck to the particles can pass through the wall of the air sac and get into the blood stream.



e. **Health effects of exposure to diesel pollution:**

» **Cancer Risks**

70% of cancer risk from outdoor air pollution comes from diesel exhaust (diesel exhaust was listed as a carcinogen under California's Prop. 65 in 1990)



» **Other health risks**

- » Increases asthma attacks
- » Aggravates bronchitis
- » Slows lung growth in children
- » Lower birth weight and increased number of premature births
- » Cardiovascular disease

f. **Why diesel fuel is used** (background information in case someone asks). Diesel engines work differently than the internal combustion engine used in most cars. They are cooler, have fewer moving parts, and last longer – all good things. Diesel fuel is heavier than the gas used in cars, is generally 'dirtier' (contaminated with sulfur, but getting cleaner), and its exhaust contains more particulate matter. Older trucks and equipment have poor pollution controls.

Protecting Human Health from Diesel Pollution: Case Study (National City)

Total Time: 20 minutes

Participant Objectives:

1. Learn about current campaigns to improve air quality in EHC's communities
2. Hear from a veteran EHC leader



Tools:

- ▶▶ PowerPoint Slides 19-21

EHC LEADER PRESENTATION

EHC has been working in all of our communities to eliminate the degradation of human health caused by diesel pollution. An EHC Leader or staff member discusses the efforts of the National City Community Action Team (CAT) to reduce diesel pollution and change locations of the Momax Truck Driving school



NOTE TO FACILITATOR:

A leader or staff that has worked on a campaign could be utilized here. Veteran leaders are a great resource and give those currently in training the ability to see themselves in that role.

- a. **Problem identified.** EHC Leaders identify diesel trucks as a problem (just one of many problems identified in their visioning process, but one that could be tackled separately).
 1. **Trucks practicing driving near an elementary school.**
 2. **Trucks traveling on residential streets** – taking short cuts, noise, pollution, safety risks
 3. **Trucks parking on residential streets** – taking up parking, leaving motors running
- b. **Community-based research** – EHC Leaders, Staff and other volunteers researched pollution through photo documentation, truck counts and pollution monitoring.
- c. **Community proposes solutions** – EHC staff researches options and legal questions then with the community decided the best solution would be for the driving school to change location of school offices and practice areas
- d. **Community outreach/organizing/advocacy.** EHC Leaders hold community meetings, gather petitions, reach out to the media. EHC Leaders present their proposals to decision makers.
- e. **Outcome** – VICTORY!! –:
 1. Practicing banned during school hours
 2. Trucks are rerouted
 3. Community health and safety protected – a step closer to being able to live, work and play in a clean and safe environment
- f. EHC Leaders continue to monitor compliance through documentation of violations and by meeting with traffic enforcement officers and city officials

- g. **Share Information.** Diesel is a problem in many other communities, and EHC has used some of the same techniques elsewhere.
1. In **Chilpancingo, Mexico**, diesel trucks were taking short cuts through their neighborhood traveling from the border to the industrial park (including the one where Metales y Derivados used to be). EHC, the CAT and the Youth Group conducted air monitoring in front of the kindergarten, the elementary school, and the secondary school and gathered petitions as part of a strategy to get the city government to ban trucks from local streets.
 2. **VICTORY!** The community won signage banning trucks on certain streets - trucks are now rerouted though away from the sensitive areas in this community.
- h. Question and answer period

FACILITATOR SUMMARIZES

- a. This is another example of an intermediate goal to protect human health -- get the trucks away from community. Future efforts – continue to advocate at local and state level for more pollution prevention, truck retrofits and replacement; alternative fuels; alternative transportation
- b. Government has an important role in protecting human health
- c. Diesel is just one of many air toxics. Other examples: Master Plating (plating chemicals), solvents (auto body shops); there are many negative health impacts from air toxics, affecting every organ and system in the body.
- d. Communities have the right to determine the character of their neighborhoods. EHC Leaders in Barrio Logan and National City have also developed comprehensive visions for their communities. National City has adopted a new Community Plan and Barrio Logan's is close to being done.

4 Global Climate Change/Climate Justice

Total Time: 45 minutes

Participant Objectives:

1. Relate EHC's goals for its Clean Energy campaign to global warming and environmental justice
2. Introduce EHC's goal for environment



Tools:

- » PowerPoint Slides 22-32
- » Climate Justice Action Worksheets for break-out group activity



SHIFT FOCUS FROM LOCAL TO GLOBAL, FROM PUBLIC HEALTH TO ECOSYSTEM HEALTH

EHC is primarily a community-based organization, so why is it concerned about 'global' warming.

- » To preserve and protect the integrity of the ecosystem



EHC GOAL FOR THE ENVIRONMENT

One of EHC's goals concerns the environment. There is nothing threatening the integrity of the ecosystem as much as global warming and climate change. Ask participants what they know about global warming/ climate change.



GLOBAL WARMING FACTOIDS

Some additional factoids:

- » Average annual temperatures will increase between 1.5 & 4.5 degrees F
- » Heat waves will increase in frequency, magnitude and duration
- » San Diego will become more vulnerable to drought and wild fires
- » Sea level will be 12-18 inches higher
- » San Diego will face a severe water shortage
- » Loss of native plant and animal species



RATE OF TEMPERATURE CHANGE IN SOUTHERN CALIFORNIA

The rate of temperature change is very high in Southern California and northern Mexico.



TEMPERATURE CHANGE AFFECTS WATER SUPPLY

Glaciers are melting. In 1910 Glacier National Park had 150 glaciers; now it has 27. In Bangladesh (and other countries) people get their drinking water from melting glaciers. They will face a severe shortage of drinking water.



IT'S MORE THAN GLOBAL WARMING – IT'S GLOBAL CLIMATE CHANGE

Weather patterns are becoming more extreme.



SAN DIEGO'S CHANGING CLIMATE

San Diego is part of planet Earth, so it is also being affected by climate change. Increased temperatures, increased sea level, increased extreme events (leading to more fires)



CAUSE OF GLOBAL CLIMATE CHANGE

Ask participants if they know the biggest cause of global warming. A major cause is the increase in release of carbon dioxide and other greenhouse gases into the atmosphere. These gases trap the sun's heat. Diesel pollution is the second most significant cause of global warming. The major sources of greenhouse gases are electricity generation and transportation (burning fossil fuels).



WHO'S AT GREATEST RISK FOR CLIMATE INJUSTICE?

- a. Globally, poor countries contribute the least to global warming, but will suffer the most
 - Even in richer countries, it will be low-income people of color who suffer the most
 - Corporations are not held accountable for the damage they cause
- b. Low-income people of color have increased health risk - Less able to deal with heat waves
 - May not have air conditioning
 - May live in urban 'heat islands' - areas with lots of concrete and few trees or parks
 - May work in jobs that expose them to heat (laundries, yard work, agriculture, construction)
 - More likely to be suffering from pollution-related illnesses, such as asthma
- c. Low-income people have increased financial risk
 - Global warming will make food, water and electricity more expensive
 - Low-income families already spend a bigger proportion of their income on these necessities
 - Low-income families less likely to have disaster insurance

Finding Solutions—Breakout Groups

Divide participants into 3 groups. Pass out Climate Justice Action Worksheets to each group. They should select a recorder, a time keeper and a reporter. Each group has 10 minutes to brainstorm ideas about one of the following topic areas: what corporations, government, and individuals can do to slow global warming. Each group then has 1 minute to present its top two recommendations:

- a. How can we hold corporations accountable? (Group 1)
- b. What can governments do? (Group 2)
- c. What personal action can we take? (Group 3)

Facilitator will write responses on three sheets of easel paper titled: corporate accountability, government action, and personal action.

- d. Facilitator summarizes. Acknowledges that the task is enormous, but the consequences of not taking action would be catastrophic. As the participants have discovered, there are things that can be done.

EHC VICTORIES TO DATE:

Facilitator will refer to EHC timeline and point out a few of the victories and current efforts: Also, if participants would like a short description of some of our victories featured see the summary sheet in the SALTA notebook.

- a. **Policy changes (government actions)**

Explain what a Climate Action Plan is –

A **Climate Action Plan** is a planning document that helps governments develop policies and strategies to reach climate change goals and reduce green house gas emissions from their operations as well as community-wide activities.



- b. **Holding corporations accountable:** (Also promoting energy efficiency for Port tenants)

- ▶▶ MMC Energy Plant Expansion Permit DENIED
- ▶▶ South Bay Power Plant SHUT DOWN



- c. **Helping people take personal actions**

- ▶▶ Because of EHC
 - ▶▶ \$2 million available to help low and moderate income families in San Diego make homes energy efficient
 - ▶▶ Residents in National City and San Diego receive education and resources to reduce their energy consumption and make their homes more energy efficient
- ▶▶ EHC is working to create green jobs for low-income residents

5 Energy Efficiency in Your Home

Total Time: 35 minutes

Participant Objective:

1. Relate EHC's goals for its Green Energy/Green Jobs campaign to global warming and environmental justice



Tools:

- » Energy Assessment Checklist
- » PowerPoint Slide 33
- » An energy efficiency item (e.g. florescent light bulb) for each participant



ENERGY ASSESSMENT

EHC is working in National City and San Diego to help low-income families reduce their energy consumption and make their homes better able to deal with increased average temperatures and heat waves. Reducing energy consumption is an important tool in fighting global warming – electricity generation is the number one source of increased carbon dioxide in the atmosphere.

- a. Present energy efficiency tools to participants:
 1. Connect their energy use in home to the climate crisis.
 2. Explain 37% reduction in energy Bill w/ CFL light bulbs. Switch to CFL light bulbs.
 3. Explain connection with water conservation. Water is a precious resource and we have very little in this area. We have to transport our water from Colorado and it is very expensive to do so. We are in a drought and without water, we cannot do a lot of things. It also takes energy to warm water. Save energy and water by taking 5 minute showers and washing clothes and dishes with cold water.
 4. Explain vampire power and the importance of unplugging. Some items around your house may be using energy even if it is not being used i.e. cell phone chargers. Unplug your cell phone chargers to save energy.
 5. When replacing appliances consider replacing them with more energy efficient appliances. Look for the "Energy Star."
 6. Turn off the lights when you are not in the room/home.
 7. Get to know your home and when the sun moves into the different rooms of your home. Use natural light for reading. Place your desk by the window.
- b. Ask participants to share their own conservation tips.

6 Evaluation

Total Time: 10 minutes

Participant Objectives:

1. Review and evaluate understanding of core concepts.
2. Evaluate the delivery of the content, information, activities and materials.
3. Provide a preview of the next session.



Tools:

- Session Evaluation
- Comic Book Evaluation



EVALUATION

Pass out evaluation sheets for participants to fill out.

- a. Ask participants to take their time in filling out the evaluation, their input will allow us to continually improve the sessions.
- b. Thank participants for taking the time to fill it out, and we may use a quote from the evaluations in the SALTA publicity.

WRITTEN REVIEW

This week's comic book has 4 squares. Participants should fill in based on the following information.

- a. When I came home from class tonight, there were so many diesel trucks on the roads. Diesel exhaust _____
- b. Global Warming is an environmental problem, but it is also a human health problem. Did you know _____?
- c. Even though climate change is warming the whole globe, some people will be hurt more. For example, _____
- d. One of the things I learned that I can do is _____

PREPARATION FOR NEXT WEEK'S SESSION

- a. In this session the topic of environmental health was further explored.
- b. Next week, the focus shifts to power – who has it and how can EHC and EHC Leaders get enough power to win?