



Project Gaia: Resources for Educators

Powerpoint Presentation Guide

- I. Health
 - Slide 3: Narrative
 - This is the reality for approximately 3 billion people around the world
 - 3.5 million deaths a year are caused by indoor air pollution
 - Slide 4: Students can determine where the majority of the deaths are.
 - Lead to discussion: what kind of people or households do you think suffer most from this problem?
 - Slide 5: Video from air filters.com. Watch until 1:55 for overview of Indoor Air Pollution with good graphics.
- II. Environment
 - Slide 9: Video from EarthJustice gives a great, simple explanation of the causes and composition of black carbon and soot.
 - Slide 11: Video from NASA shows a virtual map of the world showing the movement of aerosols with a helpful subtext. The green is soot/black carbon.
- III. What others are doing
 - Click on the image of former Senator Hillary Clinton to link to a short video of Julia Roberts explaining the general issues in energy access.
<https://www.youtube.com/watch?v=cNcbT72-WbY>
 - Click on the image of supermodel Giselle Bundchen for a video produced by Sustainable Energy for All (SE4All) campaign about energy access.
https://www.youtube.com/watch?v=h5_Zn2AyUwE
- IV. Project Gaia's work
 - A 4 minute video documenting Gaia's work in the Eastern Ethiopian Somali refugee camps directed by Jake Boritt: <http://vimeo.com/9523970>
 - Slide 19: Project Gaia Video: Traditional Coffee Ceremony
 - Video prompts discussion about polluting stoves and fuels versus clean ones

Questions to start class discussion

- What does your family cook with at home? Name the *technology* and the *fuel* (to get students to identify with topic)

- What would you cook with if you lost electricity and/or ran out of gas?
 - What issues might you face? (finding fuel, cooking with it if it is wet, the amount of time it takes away from other daily activities, keeping house clean from smoke and soot)
- Who does the majority of cooking in your household? How would their life be affected if they had to collect fuel on a regular basis? How would your life be affected if your family had to collect fuel?

Case Study: Theresa, 70, from Nigeria answers some of these same questions in her interview with Project Gaia: <https://projectgaia.com/meet-theresa/>

Scenarios

1. You live in a outside of a major city. The majority of households not connected to electricity grid. To purchase the only other clean fuel option, you must pay for entire tank of LPG at once. But you household income insufficient. Charcoal can be purchased in sacks and firewood in bundles.
2. You live in a rural village. Your family sustains itself on its own small farm. Charcoal can be purchased a couple of miles away. Eucalyptus trees grow around your area.
3. You are a refugee living in a UNHCR camp. There are no trees or shrubs within a 5 mile radius. Charcoal available for purchase at high cost on the camp site.

Definitions

- **Three-stone fire:** cheapest stove to produce, requiring only three suitable stones of the same height on which a cooking pot can be balanced over a fire.
- Emissions
 - **Soot:** black, carbonaceous substance produced during incomplete combustion of coal, wood, oil
 - **GHG:** emissions that absorb infrared radiation, trap heat in the atmosphere, and contribute to the greenhouse effect. The four big GHG's are carbon dioxide, methane, nitrous oxide, and fluorinated gases
- **Energy poverty:** a lack of access to modern energy services. These services are defined as household access to electricity and clean cooking facilities (e.g. fuels and stoves that do not cause air pollution in houses).
- **Biomass:** source of energy from materials including wood, sawdust, and crop waste, which can be used directly or processed into briquettes and charcoal.
- **Sustainability:** Sustainability creates and maintains the conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations. Sustainability is important to making sure that we have and will continue to have, the water, materials, and resources to protect human health and our environment.
- **Deforestation:** the clearing of trees, transforming a forest into cleared land

- **Desertification:** the process by which fertile land becomes desert, typically as a result of drought, deforestation, or inappropriate agriculture

(Internal notes, references)

British Red Cross

<http://www.redcross.org.uk/Tags/Refugees-?cts=teachingresources>

<http://www.redcross.org.uk/What-we-do/Teaching-resources/Lesson-plans/Refugees-secondary>

<http://www.redcross.org.uk/What-we-do/Teaching-resources/Teaching-packages/Positive-Images>

The water project: <http://thewaterproject.org/resources/lesson-plans/>