Figure 1: Summary of major health effects associated with the release of airborne pollutants from fracking

HEALTH THREATS FROM FRACKING-RELATED AIR POLLUTION

GLOBAL EFFECTS

Emissions of carbon dioxide and methane contribute to climate change. Methane warms the climate at least 80 times more than an equal amount of carbon dioxide over a 20-year period.

REGIONAL EFFECTS

Nitrogen oxides and volatile organic compounds form ground-level ozone in the presence of sunlight, which can cause:

Respiratory problems, including coughs, shortness of breath, airway and lung inflammation, decreased lung function, worsening of asthma and other respiratory diseases, increased hospital admissions, and premature mortality

Cardiovascular effects, including cardiac arrhythmia, increased risk of heart disease, heart attacks, and stroke

LOCAL EFFECTS

Exposure to diesel particulate matter, hydrogen sulfide, toxics, including benzene, toluene, ethylbenzene, and xylene, and other volatile hydrocarbons can lead to:

Eye, nose, and throat irritation

Respiratory problems, including cough, difficulty breathing, and worsening of asthma and other respiratory diseases

Cardiovascular problems, including high blood pressure, heart attacks, and worsening of cardiac diseases

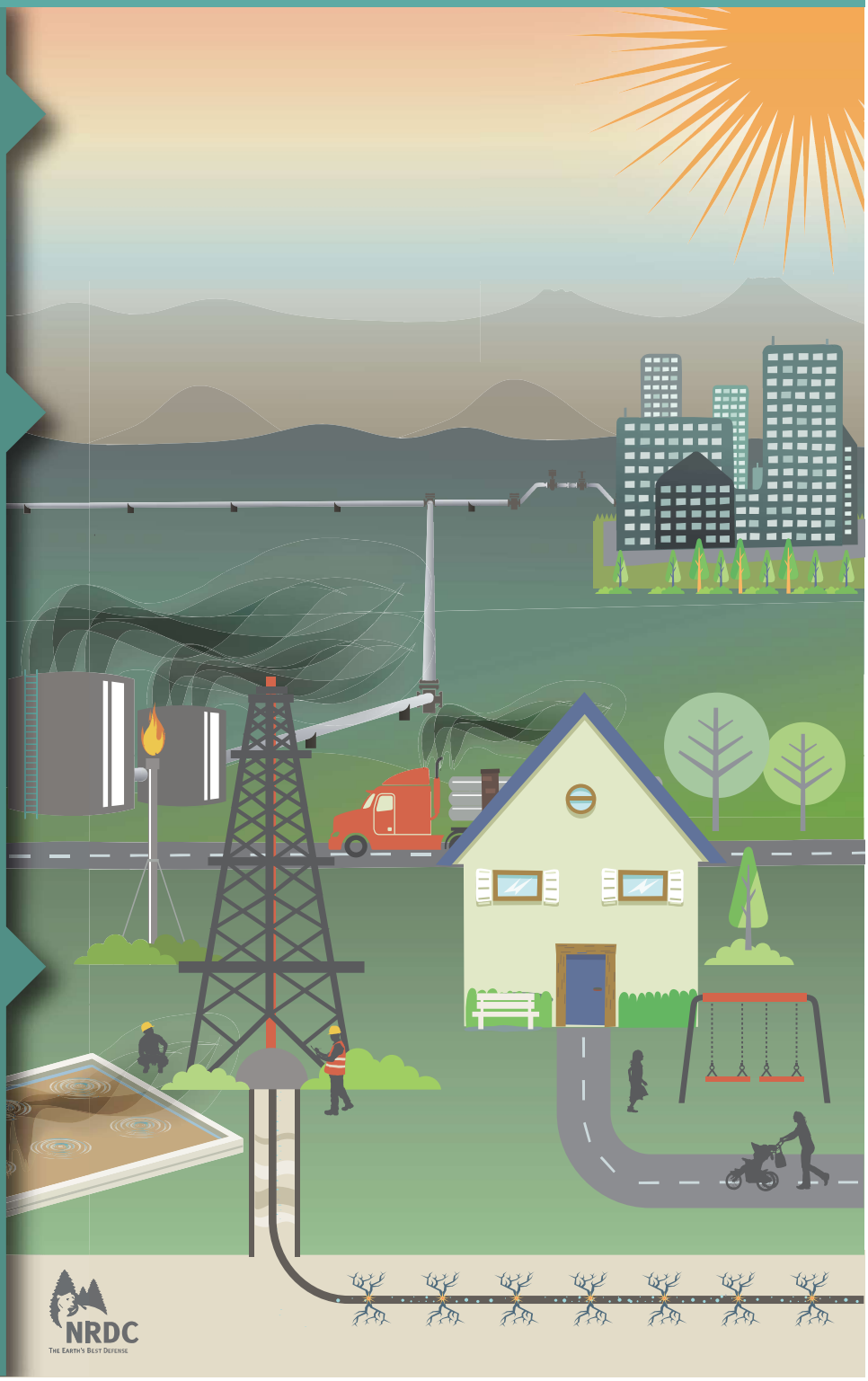
Brain and nervous system problems, including headaches, lightheadedness, and disorientation

Damage to the blood and bone marrow leading to anemia and immunological problems

Reproductive system effects

Effects on fetal and child development

Cancer and premature mortality



Sources: ATSDR factsheets on nitrogen oxides, benzene, toluene, ethylbenzene, and xylene. www.atsdr.cdc.gov/toxfaqs/Index.asp <http://www.atsdr.cdc.gov/toxfaqs/Index.asp>

OEHHA factsheet on health effects of diesel particulate matter. oehha.ca.gov/public_info/facts/dieselfacts.html<http://oehha.ca.gov/public_info/facts/dieselfacts.html>

NIOSH pocket guide to chemical hazards: hydrogen sulfide. www.cdc.gov/niosh/npg/npgd0337.html<http://www.cdc.gov/niosh/npg/npgd0337.html>

US EPA on volatile organic compounds and ozone. www.epa.gov/groundlevelozone/basic.html<http://www.epa.gov/groundlevelozone/basic.html>

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