

©Bruce E. Johansen, 2009

## **The Carbon Footprint of War**

Now that the United States Environmental Protection Agency finally has defined human-generated greenhouse gases as pollutants, harmful to health and safety, and deserving of regulation, President Barack Obama should order all departments of the federal government (most notably the Pentagon) to calculate their carbon footprints. Such an audit should include the first-ever report of greenhouse-gas emissions for modern, mechanized warfare (in this instance, in Iraq and Afghanistan). Eventually, a worldwide ban on the use of fossil fuels in warfare will make armed conflict beyond a given nation's boundaries all but impossible.

Modern war is hugely greenhouse-gas intensive (an irony when it is waged to "protect" oil supplies) and (as war always has been) monstrously harmful to human health and safety. War has never been a wise tool of diplomacy, and never a friend of the Earth. Today, in addition, it is helping push us toward environmental apocalypse.

The greenhouse-gas emissions of war should be regulated on a worldwide basis, and the United States, which has more military bases on foreign soil than any other country (more than 100) should take the lead in de-carbonizing international relations. Ecologically, war is a crime. In an environmentally sane world, the use of fossil fuels in war would be illegal. We must wage, and reward, peace.

Fossil fuels have been used to amplify the violence of war since the beginning of the industrial revolution, just as ever-more-powerful firearms have amplified interpersonal violence. Without the use of fossil fuels in warfare, for example, there would be no aerial bombing. De-carbonizing war also would step down violence, and emphasize diplomacy to solve international disagreements.

A worldwide, accelerating crisis in which all peoples in all nations face the same threat will be necessary to make this kind of swords-to-plowshares transition mutually acceptable. Within 50 years, global warming will be a threat of that magnitude, overwhelming conflicts over ideology and property that provoke armed conflict.

A fundamental change in our ways of thinking is going to be required to deal with global warming. While we debate politics, apolitical greenhouse gases merely retain heat. Thermal inertia delivers the results of atmospheric change roughly a half-century *after* our burning of fossil fuels provokes them. The weather today is reacting to greenhouse-gas emissions from about 1960. Since then, the world's emissions have risen roughly 400 per cent, indicating dramatic temperature rises a half-century from now. The Earth system also presents us with accelerating feedback cycles involving melting permafrost (injecting carbon dioxide and methane into the air) and changes in albedo (reflectivity) from melting snow and ice that compound themselves.

Solutions demand that we acknowledge a future threat with a legal and diplomatic system that reacts in the past tense, only after we have seen evidence. Political inertia plus thermal inertia thus presents the human race with a challenge to fashion a new energy future *before* raw necessity – the hot wind in our faces – compels action of a dramatic nature, such as regulating the use of fossil fuels in warfare.

Increasing carbon-dioxide emissions also play other roles in the Earth system in addition to increasing temperatures. For example, a rising carbon dioxide level already is making the oceans more acid, imperiling anything with a shell, including the plankton that forms the basis of the oceanic food chain. As temperatures rise lineally, some research now indicates that the hydrological cycle changes exponentially – thus the rising number of severe droughts and

deluges around the world. Warmth also changes atmospheric circulation (and, thus, precipitation patterns), contributing to drought in Australia, the United States Southwest, and other regions.

Someone will complain that decarbonizing warfare would be unrealistic. The same assumptions have given us an economic and accounting system that places the carbon price of everything we do (including war) at zero. Given the price future generations will pay for our emissions, business as usual is what is impractical.

With the carbon footprint of war added to its cost in blood and treasure, this tally of greenhouse-gas emissions should convince us that no war is worth what we pay for it. The Earth can no longer afford fossil-fueled war.