RENEWABLE ENERGY

Climate Change

Studies published by the Intergovernmental panel on climate change (IPCC) indicate the global surface temperature increased 0.74 ± 0.18 °C during the 100 years to 2005 and while natural phenomena such as solar variation and volcanoes are likely to have had a some effect on this rise, the basic conclusions that climate change driven by increased industrialization and a reliance on fossil fuels have been endorsed by at least 30 scientific societies and academies of science including all of the national academies of science of the major industrialized countries.

Climate model projections suggest that global surface temperature will likely rise a further 1.1 to 6.4 °C in the twenty-first century. Although most studies focus on the period up to the year 2100, warming is expected to continue, even in the absence of new emissions, due to the large heat capacity of the oceans and the lifespan of CO2 in the atmosphere.

Effects of global warming include a rise in sea levels and a change in the amount and pattern of precipitation. Other likely effects include Arctic shrinkage and resulting Arctic methane release, increases in the intensity of extreme weather events, changes in agricultural yields, modifications of trade routes, glacier retreat and species extinctions.

A move towards electrical power generation through alternative energy sources will help mitigate further increases in emissions.

Figure 1: Easton Glacier on Mount Baker in Washington State