

diversification. Substitution of coal with less polluting fuels, such as natural gas, is not an economically viable option on a large scale. Hydroelectric and nuclear power have potential promise, but their development requires large amounts of capital and long construction periods, and they are not without their own environmental considerations.

Environment

Comprehension of FEEEP is complicated by the multiple definitions associated with the word "environment". Environment is sometimes identified with environmental stress or environmental degradation. Other times it is associated with either renewable or non-renewable resource scarcity. In terms of contributing to economic growth, the environment is both an input (physical restraints on growth or the type of growth) and an output (economic growth's affect on the environment). For each linkage in the FEEEP there is a need to clarify how the "environment" is being interpreted in a specific analysis.

Major concerns have been expressed in respect to the environmental degradation resulting from economic activities and increasing populations. As noted above, energy production and consumption have major environmental implications. While interrelated, environmental degradation pressures may be categorized into pollution oriented or ecologically oriented. Pollution is a significant and widespread environmental threat. In a number of APEC countries, advancing urbanization, rapid industrialization, use of outdated technologies and low sanitation practices have resulted in serious air, land and water pollution. Industrial and domestic solid waste disposal and hazardous and toxic wastes pose constant challenges. In rural areas, fertilizer use contributes to low water quality through the leaching of nitrates into groundwater and runoff into streams.

Aside from pollution problems, countries face ecological problems. Demand for food and agricultural practices have created a number of environmental problems. Excessive use of irrigation, misuse of fertilizers, over-intensified use of marginal lands and inappropriate use of pesticides have all played a contributing role. Degradation and deterioration of forests has been widely documented, although there is still debate over the precise extent of the abuse (such as new growth forests having lower phytomass or supporting less biodiversity). Grasslands' through overgrazing and improper use for grain production, has been a significant cause of desertification and soil erosion. Annex 1 summarizes the major causes and consequences of environmental stress on natural ecosystems.