

**Q** What is the average consumption of energy per person in an industrialized country, and how does this compare with the average in a developing country?

**A** Each person in the world's richest 22 nations consumes almost a thousand times as much energy, on average, as someone in the least developed countries. Indeed, 1.6 billion people lack access to electricity and some 2.5 billion can get no modern fuels for cooking and heating. Enabling the poor to get the energy they need – and going some way to bridge the inequitable energy gap – is essential if extreme poverty is to be eradicated and the goals of sustainable development met.

**Q** If renewable energy is the best and most effective way of living sustainably, why is it so expensive?

**A** Renewable energy comes from naturally replenished sources – which must be good for the Earth's well-being – but harnessing it requires innovation, which is always expensive. By contrast the technology for getting our energy from fossil fuels is relatively simple, and our systems for exploiting them are well established. But renewable energy will get cheaper as we increase investment, and intensify research and development into longer-term renewable sources and new technologies.

**Q** Given that fossil fuels are likely to dry up and nations will inevitably compete for the last drops, what plans are in place to ensure a stable transfer to a solar hydrogen economy?

**A** We are not merely competing for the Earth's resources, but ruthlessly exploiting them! So we should also be asking whether we are competing with the planet itself for survival.

A solar hydrogen economy is likely to be cleaner, but it is only at the earliest stages of development. We need to intensify and increase the use of such renewable energy sources as solar, wind, geothermal and biomass – all of them less polluting. The shift is gradually taking place, but the pace and direction of the transition will be determined not just by technological developments, but by how industries,

governments and people respond to them.

Meanwhile we must all make strenuous efforts to use less energy as we maintain and improve all lifestyles for everyone.

**Q** Are the big oil companies at present part of the problem or part of the solution to the energy crisis?

**A** Pointing fingers does not really help, but with oil prices at an all-time high, we must hope that energy companies are ploughing their increased profits back into the search for renewable energy technologies. Some are indeed investing substantially in research and development of renewable sources – from biogas, through solar energy to hydrogen. This makes sense, because otherwise they will suffer as oil and gas begin to run out. Consumers and governments must also support policies and industries

that devote the resources, the will and the entrepreneurial skill to such innovation.

**Q** The massive economic growth of some Asian countries and others in the past couple of decades has increased demand for oil and other fossil fuels. How can countries balance environmental sustainability and the imperative to reduce poverty through economic growth?

**A** Access to energy not only helps economic growth and reduces poverty but is also fundamental to attaining education for all, empowering women, reducing child mortality, improving maternal health, and combating diseases – to name but a few. Rapidly developing economies with large populations provide both an imperative and a great opportunity to seek sustainable solutions. We need a responsibility pact between the developing and developed world – to share and put to use available information, knowledge and technologies, and to invest in and create incentives for opportunities geared towards renewable energies.

**Q** In some areas, people use vegetable oil instead of petrol to fuel their cars. If this process is emissions-free, why don't more people do the same? Are there any negative consequences? And would it be possible to grow enough corn and other crops to provide the world with energy for transportation?

**A** Vegetable oil is regarded as a cleaner, safer and less expensive alternative to petrol. It emits less carbon dioxide and cuts sulphur dioxide emissions, a primary cause of acid rain, by at least half. Indeed UNEP and DaimlerChrysler have a joint programme for developing its use as a fuel. Nevertheless, there is no one single, perfect fuel. Growing more fuel crops can interfere with cash and subsistence harvests for people and livestock, creating intense competition for cultivated land. And converting virgin land can seriously damage biodiversity. In fact we are moving to a new era in which our fuel needs will be met by a variety of sources: biofuels, wind and wave power, solar energy and hydrogen.

# TUNZA

answers  
your  
questions

Do you have any QUESTIONS on environmental issues that you would like the experts at UNEP to answer?

Please send them to [unepub@unep.org](mailto:unepub@unep.org), and we will try to answer them in future issues.

