The future of energy

What is the solution for life after oil?

Renewable

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There are two major threats facing our fragile planet and these are resource depletion and climate change. Both of these are operating on a similar time scale and require urgent remedial actions; time is rapidly running out for these actions to have any significant effect on the outcome. The measures that would mitigate the former would also have beneficial effects on the latter.

Unfortunately, there is little public clamour for action, just a general unease that something is wrong and that something needs to be done. There is also a general, naive assumption that there are solely technological solutions and that the “scientists will come up with something”.

I believe that the lasting solutions are a mixture (in no particular order) of domestic and geo-politics, sociology, economics, law, science and engineering and this combined approach makes the tasks ahead particularly challenging and fraught with difficulties. Perhaps the premier obstacle is the resistance to a radical change in the lifestyles of the industrially advanced nations which need urgently to consume less of the world’s raw materials and to reduce substantially the output of CO2 by moving away from fossil fuels.

The irony is that our planet has enormous reserves of primary sustainable energy and fossil fuels are an unsustainable soft option which is totally incompatible with the long term survival of the human race. It is also insane to burn these sophisticated chemicals in an internal combustion engine when the remaining reserves could be used for vital products such as plastics and pharmaceuticals.

Much of our transport needs can be provided by sustainable electricity and hydrogen and the latter could also be used to store electricity on a large scale through the use of hydrogen fuel cells. The primary energy could be supplied by hydro, geothermal, wind, tidal and solar and there are ambitious EU plans to site concentrated solar power (CSP) plants in areas of high solar flux such as the north coast of Africa, to provide countries to the north and south with electricity.

These developments require bold decisions and huge investments but the alternative is to sit idly by and watch the accelerating destruction of our planet because we decided that it is more important to live for today than plan and invest for tomorrow.