19 READING PRACTICE

For questions 47-56, choose from the scientists (A-E). The scientists may be chosen more than once.

Which scientist indicates the following statements?

- believes oil will be available for many more years. **47)** .....
- believes that from now on, less oil is available. **48)** .....
- believes there are ways to obtain energy that we have not yet discovered. **49)** .....
- sees a great potential in natural fuels. **50)** .....
- believes the fuel crisis will cause the poor to become poorer. **51)** .....
- sees energy and the economy as intrinsically linked. **52)** .....
- believes we should reduce our dependance on oil immediately. **53)** .....
- believes that people need to be attracted to working in the energy industry. **54)** .....
- believes that it is unlikely that governments will invest a lot of money into alternative energy. **55)** .....
- believes that future oil recovery will lead to more environmental disasters. **56)** .....

FUTURE OF FUEL

Four leading scientists give their opinion about the future of fuel

A) - Howard Bloom, Author: Even though most people are convinced that peak oil has already passed, to me, peak oil is just a hypothesis. There is a theory that carbon molecules can be found in interstellar gas clouds, comets and in space ice, and if this is the case, our planet could ooze oil for ever. And even if we stay earthbound, those who say we have raped the planet of all its resources are wrong. There's a huge stock of raw materials we haven't yet learned to use. There are bacteria two miles beneath our feet which can turn solid granite into food. If bacteria can do it, surely we creatures with brains can do it better. As far as the near future of energy is concerned, I believe the most promising alternative fuels are biofuels, such as ethanol. It's an alcohol made from waste products such as the bark of trees, woodchips, and other 'waste materials'. And that's not the only waste that can create energy. My friend in the biomass industry is perfecting an energy-generation plant which can run on human waste. We produce that in vast quantities, and it's already gathered in centralised locations.

B) - Michael Lardelli, Lecturer in Genetics at The University of Adelaide: Nothing exists on this planet without energy. It enables flowers and people to grow and we need it to mine minerals, extract oil or cut wood and then to process these into finished goods. So, the most fundamental definition of money is as a mechanism to allow the exchange and allocation of different forms of energy. Recently, people have been using more energy than ever before. Until 2005 it was possible to expand our energy use to meet this demand. However, since 2005 oil supply has been in decline, and at the same time, and as a direct result of this, the world's economy has been unable to expand, leading to global recession. With the world's energy and the profitability of energy production in decline at the same time, the net energy available to support activities other than energy procurement will decrease. We could increase energy production by diverting a large proportion of our remaining oil energy into building nuclear power stations and investing in renewable forms of energy. However, this is very unlikely to happen in democratic nations, because it would require huge, voluntary reductions in living standards. Consequently, the world economy will continue to contract as oil production declines. With energy in decline, it will be impossible for everyone in the world to become wealthier. One person's increased wealth can only come at the expense of another person's worsened poverty.

C) - Jeroen van der Veer, chief executive of Royal Dutch Shell: People are understandably worried about a future of growing energy shortages, rising prices and international conflict for supplies. These fears are not without foundation. With continued economic growth, the world's energy needs could increase by 50% in the next 25 years. However, I do not believe that the world is running out of energy. Fossil fuels will be able to meet growing demand for a long time in the future. Taking unconventional resources into account, we are not even close to peak oil. The priority for oil companies is to improve efficiency, by increasing the amount of oil recovered from reservoirs. At present, just over a third is recovered. We can also improve the technology to control reservoir processes and improve oil flow. However, these projects are costly, complex and technically demanding, and they depend on experienced people, so it is essential to encourage young people to take up a technical career in the energy industry. Meanwhile, alternative forms of energy need to be made economically viable. International energy companies have the capability, the experience and the commercial drive to work towards solving the energy problem so they will play a key role. But it is not as simple as merely making scientific advances and developing new tools; the challenge is to deliver the technology to people worldwide. Companies will need to share knowledge and use their ideas effectively.

D) - Craig Severance, blogger: What will it take to end our oil addiction? It's time we moved on to something else. Not only are world oil supplies running out, but what oil is still left is proving very dirty to obtain. The Deepwater Horizon oil spill occurred precisely because the easy-to-obtain oil is already tapped. If we don't kick oil now, we will see more disasters as oil companies move to the Arctic offshore and clear more forests. The cheap petroleum is gone; from now on, we will pay steadily more and more for our oil — not just in dollars, but in the biological systems that sustain life on this planet. The only solution is to get on with what we will have to do anyway - end our dependence on it! There are many instances in which oil need not be used at all. Heat and electricity can be produced in a multitude of other ways, such as solar power or natural gas. The biggest challenge is the oil that is used in transportation. That doesn't mean the transportation of goods worldwide, it's the day-to-day moving around of people. It means we have to change what we drive. The good news is that it's possible. There are a wide range of fuel efficient cars on offer, and the number of all-electric plug-in cars is set to increase. For long distance travel and freight, the solution to this is to look to rail. An electrified railway would not be reliant upon oil, but could be powered by solar, geothermal, hydro, and wind sources. There is a long way to go, but actions we take now to kick our oil addiction can help us adapt to a world of shrinking oil supplies.

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