

Nowadays, fossil fuels such as petroleum and coal are used in many countries. However, there are many disadvantages in using fossil fuel. In this essay, I am going to talk about the disadvantages of using fossil fuels and then I will suggest one alternative energy resource that can best replace fossil fuels in Hong Kong in the future.

The first advantage of fossil fuels is that fossil fuels cause air pollution. When fossil fuels are burnt, pollutants such as sulphur dioxide and nitrogen oxides will be emitted. These pollutants can do a lot of harm to our health, such as lung cancer, asthma, and sore throats.

The second disadvantage of fossil fuels is that they will cause global warming. When fossil fuels are burnt, they give out a large amount of carbon dioxide. It is a kind of greenhouse gas which absorbs energy and keeps the earth warm. You might think, "That's great, isn't it?" It keeps the earth warm, so we can live in a warm planet instead of a cold one." That is wrong! An increase in this gas in the air results in a rise in the global average temperature. From 1880 to 2016, the global average temperature had been increasing rapidly from 13.8C to 14.8C. This phenomenon is also known as global warming.

The third disadvantage is that they will cause water pollution. When extracting or transporting oil, accidents may occur and cause oil spills. When mining coal, coal cinder which contains poisonous chemicals is washed into the rivers or seas, When burning fossil fuels to generate electricity, power plants may release hot water into rivers or seas. The points from above will cause water pollution. What will happen if the water is polluted? It will damage the water ecosystem.

The last disadvantage is that the extraction of coal may destroy land. When coal is extracted through open cast mining, vegetation and the top soil are removed. The barren land becomes wasteland. Extracting coal from underground mines may cause the ground surface above to collapse.

Fossil fuels have many disadvantages. Are there any alternatives? Of course there are. We have solar power, wind power, hydroelectric power (known as HEP), biofuels and nuclear power.

In my opinion, wind power is the most suitable for Hong Kong. What is wind power? It is the use of air flow through wind turbines to provide the mechanical power to turn electric generators. Wind power is plentiful, renewable and widely distributed. It is also clean. It has no greenhouse gas emissions during operation. The net effects on the environment are fewer than those of fossil fuel sources.

It is said that the wind power stations are best built near the shore or coastal areas. That is great news as Hong Kong is near the ocean.

How about the capacity credit, fuel savings and energy payback? According to the American Wind Energy Association, the production of wind power in the US in 2015 avoided consumption of 73 billion gallons of water and reduced CO2 emissions by 132 million metric tons, while providing USD 7.3 billion in public health savings, and the energy payback time is typically around a year.

The environmental impact of wind power is relatively minor. According to the Intergovernmental Panel on Climate Change (IPCC), in assessments of the life-cycle global warming potential of energy sources, wind turbines have a median value of between 11 and 12, depending on whether off- or onshore turbines are being assessed. Compared with other low-carbon power sources, wind turbines have some of the lowest global warming potential per unit of electrical energy generated.

But don't wind turbines give out noise while operating? Yes, they do. At a residential distance of 300 metres, this may be around 45 dB, which is slightly louder than a refrigerator. At 1.5 km, they become inaudible.

The main reason I suggest using wind power is because Hong Kong is a small place, and wind power stations require little space.

In conclusion, I highly suggest that Hong Kong should use wind power instead of fossil fuels if we want to be environmentally friendly.