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New TechnologyIntroductionFor the last hundreds of years, growth and development in various aspects of society had left huge environmental damage to us.

Under the goal of development, humans not only threaten their own existence but also that of their descendants’ lives by consuming tremendous resources intemperately.    In 2002, World Summit for Sustainable Development, WSSD, which was held at Johannesburg, Republic of South Africa from 26 August to 04 September, Jacques René Chirac, president of France, mentioned that danger we are in by saying “ The earth is dying but we don’t realize it.” As he aptly put it, our Earth has a disease that is called an “ environmental disruption”.    Unfortunately, WSSD only repeated the same argument as the Rio Declaration. It failed to take action in solving the environmental problem.

There were a lot of talks and dialogues, but no action.    Now it is time to act. In fact, many people had been expressing interest in green movements or new technologies that helping preserve the environment. Green movements started a long time ago. However, there are inherent limitations to green movements since it is difficult to actually preserve the environment merely by means of campaigns. Further, small actions such as people’s efforts in reducing waste, while appreciated, can only do so much.

People are so dependent on small conveniences that cause pollution, such as cars. Similarly we humans do not want to give up all civilization and live like cavemen to preserve the environment. Therefore, we need another way to solve the crisis.    One such way is by developing new technologies in helping preserve the environment. Recently, these new technologies are rigorously developed to preserve our environment. It will allow us to continue living in comfort and civilization while at the same time preserving the environment.

As early as the 1970s, some people have been expressing their concern about the state of the planet, and necessarily, the environment (Anderson & Lipsey, 1978). Together with corruption, inflation, and crime, energy conservation and protection of the environment have become major issues that needed to be addressed, although only a few people heeded the call (Anderson & Lipsey, 1978).            One of the best solutions to preserving the environment is the use new technology that would divert attention from the call for humans to actually make individual commitments to changing lifestyles that are more in favor of the environment (Anderson & Lipsey, 1978).

While it is observed that there are some people who do not share the opinion that technology would be useful in this venture, the majority of the populace has a positive regard for technological and scientific progress (Anderson & Lipsey, 1978). Fossil Fuels            Environmental issues are invading public forums nowadays, especially since all are concerned about the deteriorating state of the planet. One of the most popular issues involving the environment is the use of fossil fuels, such as coal and oil (West). They are generally known to be detrimental to the environment (West).

For one, they cause pollution of all types: air, water, and soil (West). It is also among the biggest causes of global warming because it produces greenhouse gases (West). Secondly, fossil fuels are finite sources of energy, which means someday, all such resources would run out or would be greatly difficult to obtain (West).            Because of these problems, many governments and private companies have taken the initiative of studying, researching, and developing new technology that would provide alternative sources of energy that would eventually replace fossil fuels (West). Examples of alternative energy resources are the sun, wind, and water, which produce renewable energy called solar, wind, and hydropower energy, respectively (West). Global Movement            Aside from the invaluable benefit to the preservation of the environment andof irreplaceable energy sources, the world has witnessed how global investment in renewable energy has caused enormous profits for businessmen (West). Because of the interest in planet-friendly and alternative sources of energy, a lot of big companies invested huge amounts of money in researching and developing sources of renewable energy (West).

More importantly, governments are taking an active stance on the matter, with an estimated 48 countries formulating and supporting policies that promote renewable energy (West). Biofuels            One of the areas of this movement that has found great success is the development and use of biofuels, which are blended with vehicles fuels. Reports show that at least three countries, namely, India, China, and Brazil, have mandated biofuel use (West).            There also countries that reduced their consumption of fossil fuel, not primarily because of concern for the environment, but because of the desire to cut back on importation of oil (Cloin, 2007). Among these countries are United States and Brazil (Cloin, 2007).

Nevertheless, this commitment is not less important because of the objective for the switch to biofuel. Rather, these countries also contribute to the development of biofuels, which replace fossil fuel (Cloin, 2007).            Other countries, such as Japan and the European Union, made the switch to biofuel because of environmental concerns and commitments to the Kyoto Protocol (Cloin, 2007). Other countries that are catching up on this environmental endeavor are Asian countries such as Malaysia, the Philippines, and Indonesia, which are fueled by environmental concerns, assistance to farmers and concerns on energy security (Cloin, 2007). These countries have discovered the technology of producing biofuels from coconut oil (Cloin, 2007).            One major setback for countries in the Pacific that have joined the biofuel bandwagon is the argument that the Pacific islands is not big enough to produce adequate volumes of biofuel to achieve economies of scale (Cloin, 2007). Despite this, many countries in the Pacific continued to make progress in producing biofuel (Cloin, 2007).            Countries like Canada, which prioritize the development of biofuel technology, consider it a milestone achievement to partially replace the use of vehicle fuel with renewable fuels such as ethanol and biodiesel (Greenprogress, 2007).

The new technology, performed in world-class biofuels facilities in Canada, is estimated to reduce emissions of greenhouse gases by approximately 4. 2 megatonnes (Greenprogress, 2007).            Biofuel technology also allows the production of biofuel from sources other than coconut oil, such as palm oil and waste oil from restaurants and resorts (Cloin, 2007). In addition, oil from plants like Jathropha can also be treated to produce biofuel (Cloin, 2007).            Biofuel technology consists in the refining of huge numbers of bushels of corn or other product to be converted into bioethanol. The fuel produced from the process can be used to run cars that are now being produced by many car production companies that are specially designed to run on biofuel.

The beauty of the technology of biofuel production is that it can be used in various blends, whether with or without technical adaptation (Cloin, 2007). Unfortunately, experts do not believe that there is much potential for the production of biofuel (Cloin, 2007). This negative belief is not caused by failure of technology, but by the lack of sufficient feedstock to supply the biofuels (Cloin, 2007).

Countries in the Pacific islands taken together would still not be able to produce at least 10% of total fossil fuels (Cloin, 2007). The potential of such countries is also estimated to be capable of producing only approximately 30% of the demand for transport fuels (Cloin, 2007).         Thus, it is predicted that it would require the combination of major technological advances and international trade of biofuels on a large scale before the world experiences a major breakthrough in the use of biofuels (Cloin, 2007). Provided that countries in the Pacific could produce a significant stream of biofuel feedstock, then biofuel technology promises to be a part of a sustainable solution to the replacement of fossil fuel and petroleum products (Cloin, 2007).            On the other hand, it is worth noting that biofuel technology offers several advantages that must be appreciated. One such advantage in the use of biofuel technology is that governments and companies can take advantage of the generation of efficient, clean and green sources of energy (The Scottish Government, 2006). Moreover, biofuels are versatile, which allows production of heat and electricity on a large scale (The Scottish Government, 2006).

Possibilities in the Use of Coconut Oil Fuel Technology            Despite the need for further technological advancements, the current technology allowing the production of biofuel from coconut oil already offers many possibilities (Cloin, 2007). For example, coconut oil can be used in many ways to run on compression (diesel) engines (Cloin, 2007).            The first option is to blend coconut oil with diesel and turn it into biodiesel, or use the combination to run on an adapted engine (Cloin, 2007). The only observed setback to this option is that fuel consumption is higher by 8% when compared to consumption of diesel alone (Cloin, 2007). To illustrate, where diesel is used to run in an engine and consumes 1 liter of fuel to run a certain distance, the same distance would be covered using coconut oil and diesel using 1. 08 liters. The difference is claimed to be caused by lower energy content and the higher specific density of the combination (Cloin, 2007).            Another observed shortcoming of biofuel use is decreased engine durability, when the fuel blend contains more than 20% of vegetable oil (Cloin, 2007).

Furthermore, vegetable or coconut oil can leave residue or deposits on various parts of the engine, such as the valves, pistons, and combustion chambers, which can cause severe loss of output power and engine failure (Cloin, 2007). They could also cause the deterioration of the engine lubricant (Cloin, 2007). Biofuel use also requires that the load of the engine be kept high in order to avoid polymerization of the fuel and to foster high compression chamber temperatures (Cloin, 2007).            Various adaptations of the technology involve the tweaking of various aspects of the technology and the use of the fuel, with a view in mind of improving biofuel’s capacity to replace fossil fuel (Cloin, 2007). One such adaptation is the combining of small water content with the coconut oil in order to prevent filter blockages or metal scrub deposits (Cloin, 2007).

Another adaptation of the technology involves the feature that the engine would start and stop using regular diesel fuel (Cloin, 2007). However, where the engine achieves a certain temperature, coconut oil would be used to supply fuel to the engine (Cloin, 2007). Finally, the said supply would again switch into diesel before the engine is stopped (Cloin, 2007). This adaptation is also designed to avoid coconut oil residues, which could occur  where coconut oil is made to have a old start (Cloin, 2007).            Still another adaptation allows biofuel or coconut oil to start and stop the compression engine (Cloin, 2007). However, this requires that the engine be equipped with protection and equipment such as extra filters, dedicated fuel pumps and adapted injectors (Cloin, 2007).

The technology of the use of coconut oil in compression engines is still very far from perfect. Indeed there are still many issues that need to be discussed. For one, the use of coconut oil increases maintenance costs on the part of the vehicle owner (Cloin, 2007). Therefore, to economically justify the use of biodiesel, there must be a  significant price differential between the prices of diesel and coconut oil (Cloin, 2007). Private Efforts            Nestle Oil is another private company that has joined the biofuel bandwagon (Linnaila, 2007).

It designed a project on biofuel technology that can produce 14 million tonnes per year of biofuel using state-of-the-art refineries in Finland (Linnaila, 2007).            The technology refines  vegetable oils and animal facts to produce tons of biofuel that has no non-fuel side products (Linnaila, 2007). The project also benefits from the technology because it causes significant life cycle carbon dioxide savings (Linnaila, 2007).            The most important benefits out of biofuel technology, however, come from the product characteristics of biofuel itself (Linnaila, 2007). It has significantly reduced exhaust emissions and contains no sulphur, aromatics nor oxygen (Linnaila, 2007). Having no unsaturated material, the product has good stability and has low solubility to water (Linnaila, 2007).

Finally, the product meets the high standards of most car manufacturers (Linnaila, 2007). All these characteristics of the product of biofuel technology leads Nestle Oil to claim that this new fuel is the next generation biofuel (Linnaila, 2007)Hybrid Cars            An offshoot of the development of biofuel technology is the mass production of recently developed hybrid cars, which presents an innovative and efficient option for consumers who are concerned about the environment. The basic characteristic of a hybrid car is that it combines two or more sources of power or energy, and such mechanism makes the car more fuel-efficient.            Most hybrid cars use an engine that is smaller than the traditional one. This smaller sized engine causes the car to be more fuel-efficient. Nowadays technological advancements led to the creation of various types of hybrid cars, which all offer a safer alternative for the environment (Appel, 2007). Some hybrid cars run on biofuel, while others run on electricity or battery (Appel, 2007). There are also hybrid cars whose engines are supported by a self-recharging machine that minimizes fuel consumption.

More importantly, most hybrid cars are known for cleaner tailpipe emissions (Appel, 2007). It is even reported that hybrid cars produce ninety percent less pollutants that cars that run on gasoline.            An example of a hybrid car is the recently launched concept car made by Saab, the Swedish subsidiary of General Motors (Reactual, 2006). Saab has already made a name for itself in terms of manufacturing hybrid cars. Saab’s cars can run on “ any mixture between ordinary gas and E85 (Reactual, 2006).” E85 is made by blending gas and 85% bioethanol, which is made from plants. Bioethanol is made by using a different technology from biodiesel, but both alternative fuels serve the purpose of conserving on fossil fuels, while at the same time reducing harmful emissions to the air (Reactual, 2006). Currently, Saab, and undoubtedly many other car manufacturers, are working on concept cars that run on other alternative fuel, or alternative sources of energy such as electricity (Reactual, 2006).

Another technology that found its way among hybrid cars led to the development and manufacturing of cars than run on electric power. They have been called “ cars of the future,” because they run quietly and causes no negative impact on the environment. More importantly, this technology removes the car industry’s dependence on fossil fuel or other oils for it to run, thereby removing many environmental problems such as pollution and loss of non-renewable fuel.            Unfortunately, the technology that powers electric cars is still not fully developed, since up to now, electricity can only power small cars and not larger cars. Moreover, electric power is not capable of giving cars maximum speed to run on highways. These setbacks limit the usefulness of electricity-powered cars, which therefore affects its appeal to the public.            The development of new products such as hybrid cars and alternative fuel such as biofuels are welcome news. Being beneficial to the environment, it is safe to say that the money and resources allotted for the research of new technologies like this are not put to waste.

Conclusion            People from all over the world have succeeded in developing various technologies, such as hybrid cars and biofuels, by which they can continue living in comfort while not destroying the planet. These technologies also explore the development and utilization of non-traditional sources of energy in order to conserve on vital resources that cannot be replaced, such as fossil fuel. These technologies decrease human’s dependence on fossil fuels and thereby reduce damage to the environment. Thus, the availability and production of renewable energy prevent further damage to the environment.            It is undeniable that current technologies still need a lot of improvement. Indeed, as enumerated above, these technologies still cause some trouble, such as reduce the longevity of cars’ engines. Nevertheless, these technologies  should be appreciated, and efforts in developing them should be commended because they give people the hope that the planet can still be saved. The example demonstrated by countries that have already begun action on this field, such as the European Union, India, China, and Brazil, should be followed, because everyone in the planet would be gravely affected if people do not take action now.

It should be noted, however, that efforts at saving the environment should not stop at the discovery and use of new technologies that conserve energy or use new sources thereof. To fully maximize the potential of these new technologies, there is a need for an overhaul of our lifestyles, which should consist in thinking for the sake of future generations and more consciousness in all our actions that may harm our environment. ReferencesAnderson, R. W. & Lipsey, M. W. (1978).

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