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Advantages of green technology

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Abstract
Green technology implies to a system that uses innovative methods to create environment friendly products. Mainly, it comprises of various everyday cleaning products, energy sources, inventions, waste, clothing and a host of others. Going green or using technologies that are friendly to the environment is among the many ways that countries are looking into in order to spur economic growth and improve the lives of its citizens. Green technology uses renewable natural resources that never depletes. Green technology uses new and innovative energy generation techniques. Green nanotechnology that uses green engineering and green chemistry is one of the latest in green technologies. One of the important factors for environmental pollution is the disposal of waste. Green technology has answers to that as well. It can effectively change waste pattern and production in a way that it does not harm the planet and we can go green. Among the possible areas where these creations and growth are expected to come from include green energy, organic agriculture, eco-friendly textiles, green building constructions, and manufacturing of related products and materials to support green business. Because this is but new to the industry, it is also expected to attract new customers who will see the many advantages of using green technologies in their homes and others. Besides other forms of green technology in field of generation of energy are done by solar power and fossil fuel. These have no adverse effect on the planet and it won't replenish. So future generation can also benefit from them without harming the planet. This paper focuses on the advantages of green technology and the benefits that can be accrued out of it.

Keywords: Green technology, Environmental pollution, Renewable energy, green chemistry, eco-friendly technology, organic farming

INTRODUCTION

As the name implies green technology is one that has a "green" purpose. By green we do not mean the color, however, Mother Nature is quite green, and the long and short term impact an invention has on the environment is what we are talking about. Green inventions are environmentally friendly inventions that often involve: energy efficiency, recycling, safety and health concerns, renewable resources, and more. The world has a fixed amount of natural resources, some of which are already depleted or ruined. For example: household batteries and electronics often contain dangerous chemicals that can pollute the groundwater after disposal, contaminating our soil and water with chemicals that cannot be removed from the drinking water supply and the food crops grown on contaminated soil. The risks to human health are great. Therefore, the need of the hour is that every investor should think green. They should know that green inventions and clean technologies are good business. These are fast growing markets with growing profits. From the view point of consumers they should also know that buying green inventions can reduce their energy bill and that green inventions are often safer and healthier products.

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Categories of green technology

Green technology covers a broad area of production and consumption technologies. The adoption and use of green technologies involves the use of environmental technologies for monitoring and assessment, pollution prevention and control, and remediation and restoration. Monitoring and assessment technologies are used to measure and track the condition of the environment, including the release of natural or anthropogenic materi- als of a harmful nature. Prevention technologies avoid the production of environmentally hazardous substances or alter human activities in ways that minimize damage to the environment; it encompasses product substitution or the redesign of an entire production process rather than using new pieces of equipment. Control technolo- gies render hazardous substances harmless before they enter the environment. Remediation and restoration technologies embody methods designed to improve the condition of ecosystems, degraded through naturally induced or anthropogenic effects.

One of the best known examples of green technology would be the solar cell. A solar cell directly converts the energy in light into electrical energy through the process of photovoltaics. Generating electricity from solar energy means less consumption of fossil fuels, reducing pollution and greenhouse gas emissions. Another simple invention that can be considered green is the reusable water bottle. Drinking lots of water is healthy. Reducing plastic waste is great for the environment. Hence, trendy reusable water bottles that you can refill yourself are health-promoting, eco-friendly, and green. Some of

the Green Technology subject areas are listed below.

Energy

Perhaps the most urgent issue for green technology, this includes the development of alternative fuels, new means of generating energy and energy efficiency

Greenbuilding

Green building encompasses everything from the choice of building materials to where a building is located.

Environmentally preferred purchasing

This government innovation involves the search for products whose contents and methods of production have the smallest possible impact on the environment, and mandates that these be the preferred products for government purchasing.

Greenchemistry

The invention, design and application of chemical products and processes to reduce or to eliminate the use and generation of hazardous substances.

Greennanotechnology

Nanotechnology involves the manipulation of materials at the scale of the nanometer, one billionth of a meter. Some scientists believe that mastery of this subject is forthcoming that will transform the way that everything in the world is manufactured. "Green nanotechnology" is the application of green chemistry and green engineering principles to this field.

Advantages of Green Technology

1. Does not emit anything harmful into the air
2. Can bring economic benefits to certain areas
3. Requires less maintenance so you don't have to shell out a lot of money to operate it
4. Renewable which means we will never run out
5. Can slow the effects of global warming by reducing CO2 emissions

The advantage of utilizing green energy sources is that must be clean so no discharge anything damaging into the atmosphere with which has a direct effect on the natural environment. It's also replenishable which suggests we will not find you have no it in contrast to oil that is envisioned to dry up in ten years approximately. Despite the fact that green energy facilities are hard on the pocketbook to construct, it demands a lesser amount of upkeep so you lack to spend some huge cash to work it. This may also create economic advantages to some specific areas and even improve tourism. Even while these seem excellent, there are a few who say there presently exists benefits to utilizing such technology.

Establishing these facilities additionally needs plenty of land so we might have to cut on farmland which explains what many are worried about if more wind generators have to be set up. A second negative aspect is the fact many of the green energy sources cannot really be installed in specific places of the earth. As an example, wave energy can only be made use of if the waves from the sea attain at the least 16 feet. The utilization of geothermal energy only works in geologically unstable areas of the planet.

But if we look at these kinds of arguments, areas that can't utilize one method of green energy source could be replaced for another. If wind generators demand more room or space, they could be set up in the proximity of the coastline instead of positioning these on land. A study reveals you could get more electric power while these happen to be in the sea. As the weather is something we are not able to regulate, it is far from every day that there's a weather disruption so this too shall pass. If solar energy is being utilized and the sun is covered, the emergency generators will be stimulated and utilize up the power that was saved.

Presently there exist ways around the misunderstandings put by a number of people which discourage the usage of green energy sources. In truth, research is constant to try to use other means to generate the electrical power we need.

A good example of this is known as ocean thermal energy. Energy is created by harnessing the diverse temperatures within the water. It is now being employed on a small scale both in Japan and Hawaii. In America, only 7% of green energy sources are used across the country. This was much higher 11 years ago and if we don't are limited to the money necessary for oil or even reduce our dependency on it, we must invest more in this clean energy.

We can get it from green energy sources such as biomass, biodiesel, geothermal, solar, water and the wind. These are things just about everyone has around us and all it takes is for another person to harness it as a substitute for depending on traditional non-renewable means to turn out energy.

Sectors of green technology
Agriculture

Organic agriculture

Energy

Renewable energy technology

- Efficiency technology
- Water and waste management
- Recycling technology
- Sewage treatment and solid waste management
- Water purification

Building

- Sustainable building material
- Building performance technology

Transportation

- Rail transport
- Electric vehicle

Strengths from adopting green technology

- Ability to meet strict product specifications in foreign markets: Manufacturers in developing countries typically need to

meet stricter environmental requirements and specifications to export their products to industrialized countries than vice versa. The adoption of green technologies can help exporting companies to gain advantage and market share over competitors.

- Reduction of input costs: Green technology can improve production efficiency through the reduction of input costs, energy costs and operating and maintenance costs, which can improve a company's competitive position.

- Environmental image: Adopting green technology can improve a company's environmental reputation, which is crucial if other competitors and consumers are becoming more environmentally conscious.

- Ability to meet stricter environmental regulations in the future: Companies that invest in green technology are more likely to be better equipped and ready for stricter environmental regulations as well as product specifications that are expected to be imposed on them in the future.

Transfer of green technologies

Technology transfer is not a passive, one-way process. To entice the transfer of green technologies from industrialized economies to the developing world, both supply and demand factors must be considered. On the supply side, investors and businesspeople who participate in the transfer of technology seek an enabling environment in recipient developing countries, specifically the capacity and infrastructure to support production and management and the regulations that encourage further development of green technology. On the demand side, there must be local demand (pull factors) in order for green technologies to be successfully absorbed. If developing countries want to embrace sustainable strategies for green growth, they must nurture the transfer of green technologies by building technical capacity and by creating an institutional framework that enables them to absorb, adapt and improve the transferred components and systems.

Currently, most of the green technology transfer is happening in the biggest emerging economies, such as China, Brazil and India. But it is not entirely unidirectional. It also takes place between, within and across industrialized and developing countries in many ways. The most frequent transfer path is the straightforward buying and selling. Additionally, there are also in-licensing and out-licensing agreements regarding potential technologies and associated know-how and the creation of more sophisticated platforms aimed at developing, transferring and using technology, such as joint ventures, strategic alliances and R&D services. Another transfer path is the acquisition of knowledge of different technologies through specialized programmes, technical assistance, training and education.

Challenges to green technology adoption

Generally, green technology is more expensive than the technology it aims to replace, because it accounts for the environmental costs that are externalized in many conventional production processes. Because it is relatively new, the associated development and training costs can make it even more costly in comparison with estab- lished technologies. The perceived benefits are also dependant on other factors such as supporting infrastructure, technology readiness, human resources capabilities and geographic elements. Hence, what could be a feasible green technology in one country or region may not be in another. Adoption and circulation of these technologies can be constrained by a number of other barriers. Some may be institutional, such as the lack of an appropriate regulatory framework; others may be technological, financial, political, cultural or legal in nature.

From a company's perspective, the following are likely barriers to adopting green technologies:

- High implementing costs
- Lack of information
- No known alternative chemical or raw material inputs
- No known alternative process technology
- Uncertainty about performance impacts
- Lack of human resources and skills.

Overcoming these barriers is a complex process because it can involve a large number of parties, ranging from government, private sector, and NGOs to financial, research and educational institutions. Promoting green growth requires identifying and removing these barriers that hinder the large-scale dissemination of clean technology to developing countries, especially to those countries with special needs, such as least developed countries and small island developing states.

CONCLUSION

A growing number of market participants now take a dim view of hazardous substances, solid waste and the emission of greenhouse gases.. But this by no means grants But the real reason technology companies are examining their green practices is because of genuine market opportunities. Consumer demand for green technology products is on the rise. Government customers are increasingly mandated to purchase green where available, and the spectrum of products covered by such provisos is growing. As for business customers, if they demonstrate a return on investment in green products, then demand will materialise. Here, the greatest opportunities are in products that reduce energy consumption. Even so, a growing number of business buyers can be expected to be motivated by nothing more than the desire to be perceived as supporting environmental sustainability. So change is coming. The green in technology products is being installed in the R&D phase. Products are being reconfigured to use fewer hazardous substances, require less shipping material, operate on less energy and promote end-of-life recycling. So in terms of environmental sustainability, the technology industries are embracing change. They are changing to avoid negative consequences or to meet green demand or to achieve both. Whatever their motivation, they are incontrovertibly shifting toward green.

REFERENCE

[1] Interim Report of the Growth Strategy. 2010. Implementing Our Commitment for a Sustainable Future, Report prepared for the Meeting of the OECD Council at Ministerial Level (Paris, OECD,)

[2] Nadia El-Hage Scialabba and Maria Müller-Lindenlauf, 2010. "Organic agriculture and climate change", Renewable

Agriculture and Food Systems, vol. 25, No. 2, pp. 158-169.

[3] R. Luken and F. Van Rompaey, 2008. “Drivers for any barriers to environmentally sound technology adoption by manufacturing plants in nine developing countries”, Journal of Cleaner Production, vol.16, No.1, pp. 67-77.

[4] http://www.greenenergyapproach.com.

[5] National Renewable Energy Laboratories http://www.nrel.gov

[6] Renewable Energy Access http://www.renewableenergyaccess.com

[7] Project on Emerging Nanotechnologies http://nanotechproject.org/