



GREEN COMMUNICATION

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Abstract

The foremost objective of this paper is elaborating term Green Communication and it's impacts. This research provides the reader with recent advancements in Green Communication and Technology. Recent years, portable technology is involved in exploitation of resources which has triggered the need of innovative and sustainable technology. This paper expands about various protocols to improve the standard of energy efficient generation of networking and manifests overall analysis of distribution, expansion, concept of green communication and networking.

Keywords:- *Green Technology, Resources, communication, energy efficiency, sustainable, environment.*

Introduction

“Green Communication” often referred as “Green Technology” or “Sustainable Technology”, aims chiefly addressing about sustainability, energy consumption. Green technology has led to an ecological generation of networking peripherals and systems. It gave rise to innovative solutions for present technical adversities, has enabled vast array of methods to maintain sustainability as well as communication abilities. They create direct as well as indirect impact on the environment.

Today, the world is facing an extremely potential threats such as increase in Carbon and Energy Footprints and the major contributor is telecommunication sector. In accordance to experts, this level of emission and usage will increase unless a better variant of technology is initiated. It has been noted that- presently ICT's share of Global contribution to carbon emission is 3.7 %. and usage of power over few years has risen about 6% i.e: (11% according to recent census). For the use of potential knowledge in this paper, reader should have hold of fundamentals of ICT, Networking, Environmental Studies.

Theory

On 2017 November 22-23, The First Regional Conference on Sustainable Industrial Development: Promoting Sustainable Energy consumption and **Clean Technologies** in Vienna International Center (VIC) organized by United Nations Industrial Development Organization

(UNIDO) discussing effective ways to overcome real time problems. One of the effective ways to improvise the standard of environmental footprint is through implementation of “Circular Economy”-Which refers to less energy use will lead to reduced material losses, reduce solid waste and a decline of water footprint. This will not only aid the environment but help us also improve our production capacities and affordability.

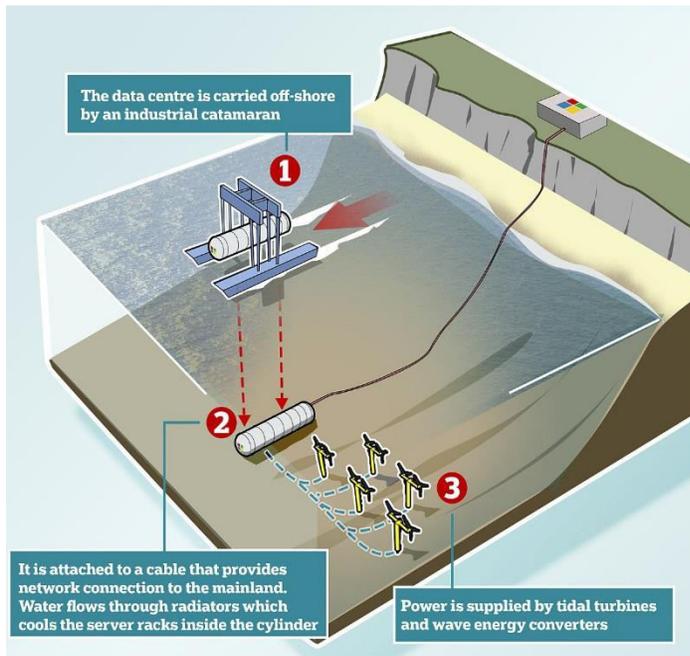
Experimental

The need for the most energy and time efficient data centers is crucial move for branch in telecommunications. So, Microsoft has just reached end of two years stage 2 experiment- Sinking their data to the ocean floor. On 9th July 2020 Microsoft has reeled up what’s called “**Northern Isles**”. This experiment involves usage of 12.2 m long steel cylinder in which lies the Data servers collecting and transmitting data as usual filled with dry nitrogen, it has started similar long-term experiment 10 miles off the coast of Scotland in the Orkney Isles, Archipelago.



Result

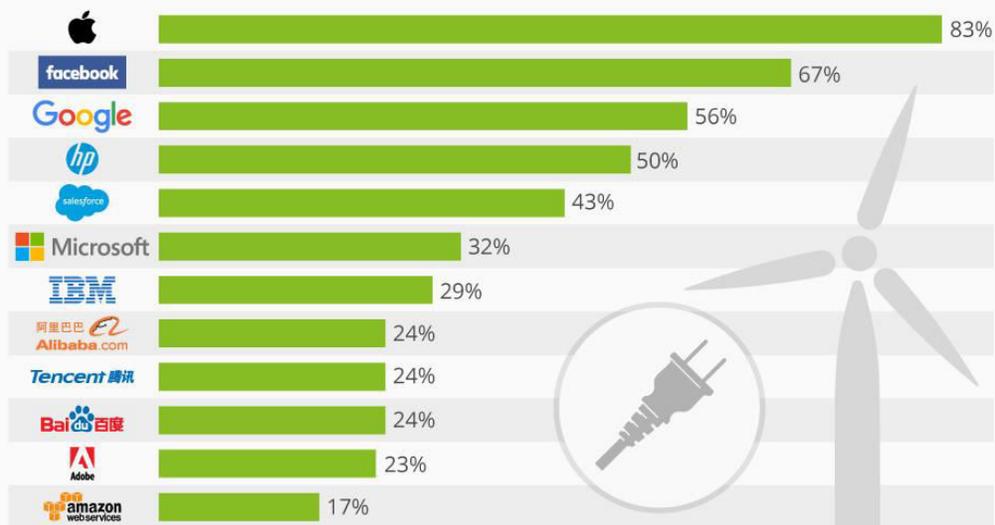
During the following experiment Although handful servers went offline, Microsoft’s energy footprint and maintenance regarding the sunk data center’s fell to This due to convectional heat transfer from the water surrounding the steel cylinder when compared on land data centers consumes high energy to keep it on peak performance as well as the tidal turbines powers up these cylinders. And their study proved it to be eight times more efficient over the land-based data centers there were not many adversities faced by the data centers underneath were able to transmit data up to 27 petabytes per second.



Discussion

GreenTech: The Top Companies

Percentage of renewable energy in the power supply





This chart manifests the percentage of renewable energy in the power supply of leading tech companies. Where Apple, Facebook, Google with 83%, 67% and 56% respectively stand in top 3 positions.

As part of its obligation to combat against climate change and create a sustainable environment, Apple today announced its global facilities are powered with 100% clean energy. This includes retail stores, offices, data centers and co-located facilities in 43 countries including the United States of America, the United Kingdom and India. The company also proclaimed nine additional manufacturing partners have committed to power all of their Apple production processes with 100 percent Renewable energy, bringing the total number of supplier commitments up to 23. As mentioned, Renewable projects initiated by Microsoft, it also invested on its several solar energy project in Ireland as well as experimenting various solutions for electricity sustainability such as for backup power at datacenters it started to experiment on tests hydrogen fuel cells. Therefore, Motivating other Telecom establishments for sustainable future.

Conclusion

This paper presents an overview of energy consumption adversities in green communication networks and describes energy saving techniques. It is identified that high energy consumption is the common problem. Green communication describes the techniques that have been used to improve the energy efficiency in branches of telecommunication. The study on green communication delivers an insight to a brief summary of enhancements that have occurred.

References

1. 1.Volume 6, Issue 13, (2018), International Journal of Engineering Research & Technology (IJERT), Vinay M Assistant Professor Dept. of Computer Science, SBRR Mahajana FGC, Mysuru.
2. <https://www.bbc.com/news/technology-44368813>
3. Green Communication: An Emerging Telecommunication Technology-Its Research Challenges, Techniques and Applications, Dr. Padmavathy, Vishnu Institute of Technology.
4. <https://youtu.be/XNcG5XSpAr4> (UNIDO) United Nations Industrial Development Organization.
5. www.rfglobalnet.com/doc/energy-efficiency-in-the-telecommunications-network
6. www.apple.com/in/newsroom
7. <https://news.microsoft.com/innovation-stories/microsoft-sse-ireland-solar-energy>