

Sustainable Energy, Health, Well-being and Sustainability

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Introduction

The 2030 Development Agenda stated that by 2030 and beyond the Member States will be able to have “affordable and clean energy” [1] globally. So, if this is the Global aim, then it is vital to provide a better understanding on the relationship between how “ensuring access to affordable, reliable, sustainable and modern energy for all” (UNDP, 2015) [1] would benefit health, well-being, sustainable development and sustainability planet, positively. Not only that this state-of-the-art idea is critical for researchers and scientists in the energy sector and across the world to understand this concept completely, but also there is a need to fill in this gap in knowledge and needs for research in the literature. This paper uses the theoretical lens of climate change and public health perspectives to establish the links between Sustainable Energy (e.g., Energy Efficiency [EE] and Renewable Energy [RE]) and three Sustainable Energy (EE & RE) indicators: health, well-being and sustainability. This establishment is pivotal because it will contribute significantly to the implementation of the Sustainable Development Goals (SDGs) from 2020 to 2030.

Sustainable Energy and Health

According to the World Health Organisation (WHO), the linked between Sustainable Energy and health is that because clean and Sustainable Energy has influences health positively (WHO, 2012) [2] or in other words, it helped prevent people from getting diseases and died from using unsustainable energy [3]. For example, whereas indoor and outdoor pollution has killed approximately 1.3 million a year, by using clean and Sustainable Energy evident showed that it saved more lives at home and in the communities (WHO, 2012) [2] significantly. As a result, such policies on clean and Sustainable Energy must support worldwide and on a larger scale. More importantly, the same evidence revealed in the United States in a study on the health and climate benefits of Sustainable Energy, which showed that after installing different RE options such as wind energy and solar, along with EE measures, many regions in the United States have saved up to between USD 5.7 million to USD 210 million dollars per year not only on health but also on climate-related costs that has impacted on health indirectly and positively

[4]. In Kenya, the Kingdom of Morocco, and the Republic of South Africa, a study by Vandaele and Porter (2015) [5] on the benefits of using RE supported the same point too by indicating not only that it has helped to improve people’s health and ‘quality of life’ but also gave women better education opportunities, help economic growth and the environment as well [6].

Sustainable Energy and Well-Being

The relationship between Sustainable Energy and well-being is built around on the perception that Sustainable Energy provides energy services that make society and people happy [7]. For example, using the SDGs as a guide, “Goal 3: Good Health and Well-being” of the SDGs are also related to “Goal 7: Affordable and Clean Energy” [1] in the sense that it will ensure that everyone will access to affordable, reliable and modern energy services by 2030 and beyond. This relationship is crucial because people who have accessed or used Sustainable Energy seems to have a positive and better health outcome which directly associated with their better well-being and happiness index [7,8] significantly than those who did not. For example, based on a study on health and well-being of occupants in highly energy-efficient buildings in Austria, people who have used highly energy-efficient buildings mechanically ventilated homes have experienced better health and overall well-being than those who have just access to natural ventilation (e.g., lived in house with doors and windows) [9]. As a result, such measures to improve health and human well-being should be introduced globally for people living with respiratory diseases disorder and other air pollutant diseases. In the professional development sector, Sustainable Energy or energy development also helps employers to develop effective and efficient services delivery to the community at large [10] thus having a positive impact on occupation well-being.

Sustainable Energy and Sustainability

The linked between Sustainable Energy and sustainability bases on the principle that Sustainable Energy helps to improve the system of support for the sustainability of a community in six

areas. First, is that Sustainable Energy helps to build a society that endures social sustainable development and sustainability [11]. For example, Sustainable Energy has helped people working together in unison to achieve the 2030 Development Agenda, the Sendai Framework, United Nations Framework Conventions on Climate Change (UNFCCC) and other frameworks to achieve sustainable and climate-resilient by 2030 and beyond [1,12,13]. Second, Sustainable Energy also fosters economic sustainability [14]. Third, is that it has put more enhancements to the development of a green and clean environment as well as environmental sustainability [15]. Fourth, it helped in building Resilience (Climate Change Adaptation [CCA] and Disaster Risk Reduction [DRR]) development, sustainable development and sustainability community. Fifth is that Sustainable Energy helped in building and achieving sustainable health. Last but not least, is that Sustainable Energy has contributed significantly to the achievements of sustainable well-being by 2030 and beyond [4,5,10,15-18]. As a result, because Sustainability Energy has been mandated on the principles of sustainability, "ensuring access to affordable, reliable, sustainable and modern energy for all" [1] by 2030 and beyond is possible and achievable. Germany has already led the way forward by wanting to transform into 100% renewable energy [19]. Therefore, the world must follow this model and ensure this is carefully planning and design so that each country can take advantage of it, diligently.

Future Directions

For the Energy sector to secure better health, sustainable well-being, sustainable development and sustainability planet, it is imperative to address these issues once and for all. First, because there is no clear framework to guide the Energy sector in the implementation of better health, sustainable well-being, sustainable development and sustainability community by 2030 and beyond, there is a need to develop this framework. Second, there is also a need for relevant stakeholders and all parties to work together in unison to achieve a sustainable and climate-resilient planet that is 100% RE. Third, which is the most prominence driver on travelling into the sea of sustainability is to ensure that the Energy sector is well supported and fully funded in terms of research and development. By guaranteeing that these future directions will be met, better health, sustainable well-being and sustainability planet by 2030 and beyond is achievable.

Conclusion

Based on this research on Sustainable Energy, health, well-being and sustainability, there are two main lessons learnt from this paper. First, is that Sustainable Energy has impacted health, well-being and sustainability, positively. So, if this is the case, then it is worth investing in Sustainable Energy. Second, is that 100% RE for the world is achievable, but relevant stakeholders must work together in unison and create a more favourable environment for a friendlier global partnership to develop overtime to 2030 and beyond. Once this is in situ, this paper recommended the following studies for the future:

- a. A mixed-method research project to develop a model or framework for the Energy sector to guide the implementation of the SDGs to 2030 and beyond.
- b. A longitudinal study to investigate the negative and the positive impacts of any form of Energy on health, well-being and sustainability.

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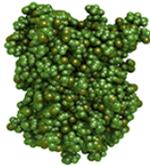


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