

**O 81. THE FUTURE ROLE OF CARBON NANOTUBES IN ENERGY SECTOR**

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**ABSTRACT** Energy poverty has become one of the most important problem to be concerned recently due to depletion of energy resources and unconscious consumption. Therefore, governments and other stakeholders have taken action to find out new energy sources. Thanks to their energy storage capability, carbon nanotubes promise considerable contribution to energy sector. In this study, a qualitative research has been conducted by holding interviews with a variety of experts working on carbon nanotubes and energy in addition to literature review. The qualitative study aims to highlight current energy usage of carbon nanotubes and the future role these materials. In conclusion, it has been observed that nanotubes are perfect for energy storage thanks to their suitable geometry and surface properties. Its potential to absorb hydrogen would be one of the most striking point for energy sector. Another promising ability is to convert electric current to chemical energy. This ability could enable nanotubes to be used in artificial muscles. It can be easily seen that further developments in carbon nanotubes will be of beneficial for energy sector and other many fields.

*Keywords: Carbon Nanotubes, Energy, Energy Storage, Energy Conversion*