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## Methods and systems for converting plastic to fuel

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Fuel is any material that stores energy that can later be extracted to perform mechanical work in a controlled manner. At least some fuels presently used undergo combustion, a redox reaction in which a combustible substance releases energy after it ignites and reacts with the oxygen in the air. Other processes are used to convert fuel into energy include various other exothermic chemical reactions and nuclear reactions, such as nuclear fission or nuclear fusion. Fuels are also used in the cells of organisms in a process known as cellular respiration, where organic molecules are oxidized to release usable energy. Hydrocarbons are the most common source of fuel presently used, but other substances, including radioactive metals, are also utilized. While there are methods currently available for generating fuel, there are drawbacks to such methods. For instance, methods presently available may require a considerable amount of energy to produce fuel.

### Biography

Moinuddin Sarker, has been working as the Vice President of Research and Development and Head of Science Team at the Natural State Research (NSR), Inc., at Stamford, CT and the inventor of NSR's award winning technology to convert municipal waste plastics into liquid hydrocarbon fuel. He has an MSc (1992) and PhD degree in Chemistry from University of Manchester Institute of Science and Technology (UMIST), Manchester, UK (1996). During his research work, he carried out research in four different synchrotron radiation sources around the world: CRCL lab, Daresbury, Warrington, Cheshire, UK (1991-1996), Synchrotron Radiation Research Center (SRRC), Hsinchu, Taiwan, R.O.C (1996-1999), Berlin Electron Storage Ring Company for Synchrotron Radiation (BESSY II) (2000) and Advance Photon Sources (APS), Chicago, USA (2001-2004). He is a distinguished member of 30 professional organizations. In 2010, he received, the International Renewable Energy Innovator of the year Awards 2010 at Washington DC and presented by Association of Energy Engineers (AEE), USA. Currently, he serves as a President of AEE-CT Chapter (Association of Energy Engineers, CT Chapter) since 2012.

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