Microwave assisted pyrolysis of plastic waste for production of fuels: a review
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This paper presents an overview of advantages of microwave assisted pyrolysis of waste plastics together with its limitations. It has been established that microwave induced pyrolysis can be used to get value added chemicals and fuels through its numerous noted advantages in contrast to conventional pyrolysis. The process has the potential for fast, volumetric and selective heating of plastics for the recovery of energy. The limitation in the use of dielectric material as absorbent in plastic pyrolysis has been highlighted. Special focus has been given to the constraints encountered in the accurate measurement of temperature and uniform heating in microwave assisted pyrolysis. A new alternative method based on microwave-metal interaction in the pyrolysis of plastic waste has been presented. Further it has been realized that proper investigation and understanding of microwave process shortcomings is fundamental to the successful implementation of the technology and at the same time provide a sustainable environment in the endeavor for waste to energy mission.