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An international survey and recommendations for modern hydrokinetic systems

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This study presents the results of a survey on some of the advantages of the novel and uniquehydrokinetic energy generation systems over other technologies available today.

Recently, a comprehensive assessment study for the application of internationally leading hydrokinetic technologies in water engineering has been conducted. The study was carried with the collaboration of the School of Engineering, University of Glasgow and Scottish Water Horizons Ltd. The assessment involved the information collection, critical analysis of various features and financial viability analysis of various hydrokinetic systems available at this time. The outcomes of the study are summarized below:
-[U+F0B7] The preliminary assessment of the hydrokinetic system and their application were carried out. The technologies were divided into different categories as per their core theory, scope of application as well as positive and negatives effects of their application.
-[U+F0B7] A variety of criteria were used to assess the technical, economical and ecological potential from the application of hydrokinetic systems.
-[U+F0B7] A number of companies representing a wide range of technologies available worldwide were ranked considering the performance of these against the above criteria.
-[U+F0B7] Only a couple of the companies could satisfy the selection condition to be adopted into select sites of low flow and low pressure head.
- A more detailed assessment for specific sites and further testing of these technologies is recommended to further assess the advantages and optimal performance of the selected technologies.

A preliminary evaluation of the best performing systems demonstrates its effectiveness, particularly over other existing hydrokinetic technologies, when ecology of the open water surface system is considered. Specifically it will be of interest to use the selected technology in combination with a fish passage, as compared with other technologies this system has a minimal amount of fast moving components.