

11th World Congress and Expo on **Recycling**

June 13-14, 2019 | Edinburgh, Scotland

Recent work on nonconventional reuse of FRP materials in infrastructure**Lawrence C. Bank**

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Fiber Reinforced Polymer (FRP) composite materials are not biodegradable and present unique problems with regard to waste management and their End-of-Life (EOL). The impact on polymers (aka plastics) on the environment and society has become a major concern for many countries. Legislation in Europe has been enacted to restrict the disposal of non-biodegradable polymers (including FRPs) in landfills. A number of EU Horizon 2020 projects have recently been awarded in this area. In the US landfilling (aka dumping or tipping) is the predominant method of disposing of FRP scrap and waste costing in the range of \$45 to \$200 per ton. With the increased awareness of the environmental impacts of climate change, decreased and more expensive natural resources, and greater global concerns for health, the barriers to FRP production and waste disposal are likely to increase. Since the 1990s, there has been a developing body of research that has studied the issues of recycling of FRP composites. There are three primary methods to dispose of FRP composites at the present time, (1) landfilling, (2) incineration, and, (3) reusing all or part of the composite material in a secondary process or application. A fourth method, which is being explored quite actively is (4) reclamation, where the original constituent fiber and matrix materials are recovered for reuse. In the context of the circular economy the preferred method to dispose of FRP waste is to use it in new application or processes which needs to be conducted using a total life-cycle-assessment (LCA) methodology. The necessary tools to make an evaluation of the sustainability of FRP products will be reviewed. Current research, shown in the images below, funded by the US NSF and New York State, related to reuse of FRP composite materials from FRP reinforcing bars and from wind turbine blades will be discussed. .