2D transition metal carbides, carbonitrides and nitrides, also known as MXenes, are synthesized by selectively remove the A atom layer from parent MAX phase using etchant such as aqueous fluoride-containing acidic solutions. MXenes have shown great potential in electrochemical energy storage devices due to its electronic, mechanical and optical properties. Herein, we will present our strategies to optimizing the electrochemical performance of $Ti_3C_2T_x$ MXene in both aqueous and non-aqueous systems. In sulfuric acid electrolytes, a $Ti_3C_2T_x$ MXene hydrogel electrodes demonstrated a high volumetric capacitance of 1500 F cm^{-3} and 350F g^{-1} for the gravimetric capacitance, exceeding those conventional carbon materials. Differently, MXene electrodes performances were limited in non-aqueous systems. It is crucial to increase MXenes capacitance in non-aqueous electrolytes since non-aqueous systems can offer a larger voltage window (> 2.5 V), thus lead to high energy density. Interestingly, our recent results demonstrated that tailored $Ti_3C_2T_x$ MXene electrodes could deliver capacitance up to 200 F g^{-1} with a 2.4 V voltage range in non-aqueous Li^+-containing electrolyte, by controlling the architecture. The performance of Ti_3C_2 MXene in non-aqueous systems can be further improved by modifying the surface functional groups. This offers new opportunities for MXene materials for future energy storage applications.