I used data analytics, field studies, geological modeling and numerical simulation to design a diagnostic tool that would indicate when is the right time to convert from Cyclic Steam Stimulation to Steam Drive (Enhanced Oil Recovery). This method would save companies lots of money and would reduce the carbon footprint through preventing unnecessary additional steam injection where the water buildup and reduced relative permeability diminish the good effects of additional steam injected (lowering oil viscosity, increasing mobility). This is a practical optimization application of data analytics in the Oil and Gas industry.