The world’s transition to renewable energy, necessitated by climate change and sustainability issues, presents enormous challenges to humanity. The thesis of this talk is that the transition also presents the service science community with similarly enormous opportunities to make meaningful, significant, and much needed contributions through energy service analytics. The talk presents technical results only incidentally. It focuses instead on developing, with some specificity, a list of grand challenges for the energy transition and within them examples of where energy service analytics can make important contributions. The talk’s aim is to substantiate the claim that there is very much to do in this regard. Far from wishing to circumscribe the contributions of energy analytics, we hope to stimulate work in this area as well as new ideas, ideas going well beyond those sketched in this talk.