

Nuclear Energy

Physics and Mathematics of Sustainable Energy

College of the Atlantic. October 30, 2023

The Browns Ferry Nuclear Plant, located on the Tennessee River in Alabama, has a nameplate capacity of 3,755 MW. In 2017, its capacity factor was 96%. The nuclear plant takes up around 3 square kilometers of land.

1. What was the actual power delivered by the power plant in 1996?
2. What is the power density of the power plant in Watts per square meter?
3. What amount of land would be needed to generate an equivalent amount of electricity from solar PV? Express this area in a meaningful way.