In addition to the energy used to playing music, networked audio products use energy 24/7 to respond quickly to network communications.

Some products have a low-power network standby mode. Some manufacturers claim that products take longer to wake from this mode.

Products without a low-power network standby mode use significantly more energy to stay connected.

The power consumed by the 77 products analysed - in order to remain connected - ranged from 17.6 W to 1.3 W with a mean of 4.3 W.

60% of the products analysed could be disconnected from the network and controlled only through push-buttons. In this mode these products used 2.2 W to 0.15 W with a mean of 0.45 W.

Based on this assessment, the worldwide energy consumed by WiFi audio products just to remain responsive to network commands is estimated to be 11 TWh in 2018.

By using the best available technology, this could be reduced by 70%, saving 7.5 TWh per annum; equivalent to the energy used by around 1 million households.
**Key Findings**

**Networked audio products exhibit significant differences in power consumption**

The energy use of networked audio products is highly dependent on power management. The ability of a product to de-energise circuitry when not required (e.g. amplifier, digital-to-analog converter, processor, etc.) will determine its energy use. There is much variability in the way this is handled by currently available products, leading to wide variations in energy use.

![Graph showing energy consumption of networked audio products](image)

**Significant global energy savings are possible**

The study estimates that the global energy consumption of WiFi audio products - in order to remain network connected - is 11 TWh in 2018. It is possible to reduce this by approximately 70% or 7.5 TWh p.a if all products exhibited best available power management. This is equivalent to the output of a 1 GW power station or the energy typically used by 1 million households.

**Networked audio products are becoming more popular**

Shipments of networked audio products increased steadily from 2010. It is estimated that in 2018 a stock of around 300 million networked audio products will be installed in homes worldwide.