A non-increasing sequence $d = (d_1, d_2, \ldots, d_n)$ is graphic if there is a simple graph $G$ with degree sequence $d$. In this paper, it is proved that for a positive integer $k$, a graphic sequence $d$ has a simple realization $G$ which has $k$-edge-disjoint spanning trees if and only if either both $n = 1$ and $d_1 = 1$, or $n \geq 2$ and both $d_n \geq k$ and $\sum_{i=1}^{n} d_i \geq 2k(n-1)$. (Received September 08, 2010)