This paper proposes the method of producing graphene sheets and carbon nanotubes with reactive magnetron sputtering in vapour by sublimation aromatic hydrocarbons (naphthalene) with a structure of the benzene rings in a more natural formation of graphene structures. The carbon grid of molecular structure of aromatic hydrocarbons coincides with the graphene of carbon grid. The article shows the method of obtaining carbon nanostructures. The graphene of peaks was observed with the vibrational mode (2D-zone) at a frequency of ~2728 sm−1 using the method of Raman spectroscopy. Results from studies using atomic force microscopy confirm the formation of graphene sheets and the carbon nanotubes.