In this talk I will present two different models for a uniform distribution of electrons, that of the Jellium model and that of the Uniform Electron Gas. They are known to give the same energy density in the thermodynamic limit in 3 dimensions and higher and to differ in 1 dimension. I will present both an extension of this equivalence to 2 dimensions and exact evaluations of the energy density for periodic configurations. This is a rotation project with Robert Seiringer.