

The invention relates to a method for optimizing the specific energy consumption of a method for producing ethylene oxide by direct oxidization of ethylene with air or oxygen, using water as the heat transfer medium for removing the heat of the reaction so that water vapor is formed. According to the invention, the water vapor is first expanded in one or several back pressure steam turbine(s) T for operating machines M before being supplied for use by one or several other consumers, such as bottom evaporators or steam injectors.