

**ABSTRACT**

5 The present invention relates to a method and device for transforming carbon dioxide (CO<sub>2</sub>) into its elements, C and O<sub>2</sub>, by means of the combined use of laser irradiation (4) and dielectric barrier discharge plasma (1) which are applied to high-melting-point ceramic or metallic substrate catalysts in a chamber (2). In this way, laser radiation increases the temperature only in the area in which it is applied, to the catalysts, in order for the emission plasma to reach a temperature close to 3400 K, capable of breaking down CO<sub>2</sub>, only in that area and not in the entire plasma reactor chamber.