

PATENT OF INVENTION

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In the name of Guy NEGRE

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METHOD AND DEVICE FOR RECUPERATING AMBIENT THERMAL ENERGY FOR VEHICLE EQUIPPED WITH AN POLLUTION-FREE ENGINE WITH SECONDARY COMPRESSED AIR

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ABSTRACT

The invention concerns a method for recuperating ambient thermal energy for an engine or vehicles equipped with pollution-free motors functioning with injection of secondary compressed air in the combustion chamber (2) and having a reservoir for storing highly compressed air (23). The highly compressed air contained in the reservoir is, previous to its being injected into the chamber (2), expanded in a system with variable volume such as a piston-cylinder assembly (54, 55), producing a work which is used by mechanical means or the like. This expansion – to the injection pressure – with work causes the air to cool to a very low temperature. This air is then propelled into a heat exchanger (41) where it is heated, thus increasing in pressure and/or in volume by recuperating a supply of thermal energy derived from the atmosphere.

The invention is applicable to all engines equipped with compressed air injection and to the production of conditioned air in vehicle.

Figure 6