Title (en)

METHOD AND DEVICE FOR GENERATING ELECTRICAL ENERGY

Title (de)

VERFAHREN UND VORRICHTUNG ZUR ERZEUGUNG ELEKTRISCHER ENERGIE

Title (fr)

PROCÉDÉ ET DISPOSITIF POUR PRODUIRE DE L'ÉNERGIE ÉLECTRIQUE

Publication

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Application

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Abstract (en)

[origin: WO2014146796A1] The invention relates to a method and device for generating electrical energy in a combined system of power plant (300), cold storage system (200) and air compression system (100). The air compression system (100) has a primary air compressor (2) for generating a primary compressed air flow (101) at a first pressure level. The power plant has a combustion unit which is operated at a second pressure level and generates a combustion gas from which electrical energy is generated. The cold storage system has means (201) for generating cold from compressed air, means (202) for storing cold thus produced and means (203) for generating a compressed air flow at the second pressure level using the stored cold. In a first operating mode (charging mode A, A'), a first compressed air flow (102, 102a) is introduced from the air compression system (100) into the cold storage system (200) in order to charge the cold reservoir (202). In a second operating mode (discharging mode B, B'), a first compressed air flow (102), which is formed by a first part of the primary compressed air flow (2) generated in the primary air compressor (101), is introduced into the cold storage system (200) in order to discharge the cold reservoir (202) and thus to generate a third compressed air flow (204) at the second pressure level, which is introduced into the combustion unit. The air compression system furthermore has a first booster (102) for boosting compressed air compressed in the primary air compressor to the second pressure level. In a third operating mode (normal mode), the entire primary compressed air flow generated in the primary air compressor is boosted in the first booster to the second compressed air level and introduced into the combustion unit.

IPC 8 full level

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