

Title (en)
METHOD AND DEVICE FOR TREATING A CARBON DIOXIDE-CONTAINING GAS FLOW, WHEREIN THE ENERGY OF THE VENT GAS (WORK AND COLD DUE TO EXPANSION) IS USED

Title (de)
VERFAHREN UND VORRICHTUNG ZUR BEHANDLUNG EINES KOHLENDIOXIDHALTIGEN GASSTROMS, WOBEI DIE ENERGIE DES VENT-GASES (ARBEIT UND KÄLTE DURCH EXPANSION) VERWENDET WIRD

Title (fr)
PROCÉDÉ ET DISPOSITIF POUR TRAITER UN FLUX GAZEUX CHARGÉ EN DIOXYDE DE CARBONE ET UTILISATION DE L'ÉNERGIE DU GAZ DE VENTILATION (TRAVAIL ET FROID PAR EXPANSION)

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Application
EP 10749788 A 20100826

Priority
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• EP 2010005248 W 20100826

Abstract (en)
[origin: CA2772146A1] The invention relates to a method and a device for treating a carbon dioxide-containing gas flow, in particular from a large combustion plant, for example a power plant. The pre-compressed gas flow is separated in a carbon dioxide scrubbing stage into a partial gas flow having an increased carbon dioxide content (carbon dioxide product flow) and a partial gas flow having a reduced carbon dioxide content (vent gas flow). The carbon dioxide product flow is fed to further processing and/or storage. In particular, by compressing the carbon dioxide underground, the emission of climate-damaging gases can be reduced. In order to improve the energy efficiency, the vent gas flow is expanded in at least one expansion turbine, and the developing kinetic energy as well as the cooling energy created in the process are used for energy recovery. In order to use the kinetic energy, the expansion turbine can be coupled to a compressor (booster) that compresses the raw gas flow and/or the carbon dioxide product flow. In order to use the cooling energy created during expansion, the at least partially expanded vent gas flow can be brought into heat exchange with process flows to be cooled, for example the raw gas flow and/or the carbon dioxide product flow.

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CPC (source: EP US)
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Citation (search report)
See references of WO 2011026587A1

Citation (examination)
• WO 2011010112 A2 20110127 - BP ALTERNATIVE ENERGY INTERNAT LTD [GB], et al
• WO 2011010111 A2 20110127 - BP ALTERNATIVE ENERGY INTERNAT LTD [GB], et al

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