

## Pengaruh ukuran karbon aktif terhadap kapasitas penyimpanan gas metana dengan metode adsorbed natural gas = Effect of activated carbon size to methane gas storage capacity with adsorbed natural gas method

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### Abstrak

[Kebutuhan akan energi mendorong berbagai penelitian untuk menghadirkan pilihan energi alternatif yang berpotensi untuk digunakan, salah satunya adalah gas alam. Gas Alam sebagai energi yang memiliki ketersediaan cukup banyak dan energi yang lebih bersih perlu dimaksimalkan penggunaannya, namun yang menjadi permasalahan utama pemakaiannya adalah metode penyimpanan gas alam. Karbon aktif dapat digunakan sebagai material yang potensial untuk penyimpanan gas metana pada wadah tabung dengan metode Adsorbed Natural Gas (ANG) dengan tekanan yang lebih rendah dan kapasitas yang tinggi. Penelitian ini bertujuan untuk menunjukkan pengaruh ukuran karbon aktif terhadap kapasitas penyimpanan gas metana dengan metode adsorbed natural gas sampai dengan tekanan 30 bar dengan memvariasikan ukuran karbon aktif komersil tipe J dengan ukuran 10, 30 dan 50 mesh. Hasil terbaik didapatkan pada ukuran 10 mesh dengan kapasitas penyimpanan 0,109 kg/kg. .... The need for energy prompted many studies to bring potential alternative energy options to be used, one of which is natural gas. Natural gas as the energy that has quite available and cleaner energy needs to be maximized, but the main problem of natural gas is natural gas storage method. Activated carbon can be used as a potential material for storage of methane gas in the tube container with adsorbed Natural Gas (ANG) method with lower pressure and high capacity. This study aims to demonstrate the effect from size of activated carbon to methane gas storage capacity with adsorbed natural gas method up to a pressure of 30 bar by varying the size of typ J commercial activated carbon with size of 10, 30, 50 mesh. The best results are obtained at size of 10 mesh with storage capacity of 0,109 kg/kg., The need for energy prompted many studies to bring potential alternative energy options to be used, one of which is natural gas. Natural gas as the energy that has quite available and cleaner energy needs to be maximized, but the main problem of natural gas is natural gas storage method. Activated carbon can be used as a potential material for storage of methane gas in the tube container with adsorbed Natural Gas (ANG) method with lower pressure and high capacity. This study aims to demonstrate the effect from size of activated carbon to methane gas storage capacity with adsorbed natural gas method up to a pressure of 30 bar by varying the size of typ J commercial activated carbon with size of 10, 30, 50 mesh. The best results are obtained at size of 10 mesh with storage capacity of 0,109 kg/kg]