

# Sustainable engineering assignment

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However, according to the table, natural gas produces 595 g of CO<sub>2</sub> while generating 1kWh of energy. It depicts the initial value to be high and without the heat recovery method.

According to the table, hard coal produces about 29 mg of Dinitrogen oxides, 1.5 g methane and 1144 grams of CO<sub>2</sub>, while generating 1kWh of electrical energy. On the other hand, natural gas produces about 12 mg of Dinitrogen oxides, 3.4 g methane and 595 grams of CO<sub>2</sub>, while generating 1kWh of electrical energy. Hard coal produces a much larger amount of emissions as compared to natural gas. Thus, natural gas is environmentally friendlier as compared to hard coal.

If the amount of leakage exceeds with a fraction of 3.7, the emissions of the shale gas to generate 1kWh of electrical energy equals to the emissions from the hard coal to generate 1kWh of electrical energy. The fraction will increase the methane emission of the shale gas to 551 grams.