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**Chemical engineering**

**Assignment 4**

Question 1

The total exploitable potential of hydropower is estimated at over 14,120 MW, amounting to more than 50,800 GWh of electricity annually.

Question 2

The Nigeria’s energy resources reserves are presented in the Table below. The electric power equivalent reserve for natural gas is higher followed by coal. This shows that long term plan on power generation from gas and coal is needed to achieve the country’s proposition of generating 40000MW. We have 12825 MW of power from hydro source, this is a clean and renewable source of energy. This require constraints such that large percent of the resource is used. Despite the huge reserve of coal and natural gas, the generation of electric power from these sources have penalty on environment.

|  |  |
| --- | --- |
| Resource type | Estimated electric power (MW) |
| NATURAL GAS | 1.66\*1012 |
| COAL AND LIGNITE | 2.7\*109 |
| HYDRO POWER | 12825 |