

Virtual Gas Network

Words: 566

Energy Efficiency in Healthcare facilities: Pholosong Hospital



Natural Gas is increasingly becoming a favoured fuel alternative, it has been dubbed “*the fuel of the future*” by many. With the increasing pressure to lower carbon emissions, the use of coal-fired equipment is phasing out. As part of the Green Initiative, the South African government has been encouraging and supporting alternative fuel options that can be effective yet gentle to the environment. Natural Gas has been one of the best options, holding both the effectiveness and environmentally mild component.

From a healthcare point of view, reliable and sustainable energy is critical for delivering and improving healthcare services. CNG Holdings, through its division, Virtual Gas Network has been progressively installing Compressed Natural Gas (CNG) equipment in health facilities, with a constant supply of Natural Gas. Pholosong Hospital, situated in Tsakane, is one of the hospitals that recently converted to using Natural Gas. The hospital has converted one of its coal-fired boilers to utilise Natural Gas, used for providing steam for heating, cooking, and laundry. CNG Holding’s Virtual Gas Network distribution provides Natural Gas conveniently even when there is no existing Natural Gas pipeline.

Pholosong Hospital houses tube trailer bays which are situated some distance from the boiler room with the gas piped to the plant. Virtual Gas Network through SAGA-approved registered Gas Practitioners routed pipes underground to avoid the risk of damage. Tube trailers are parked in the dedicated bays, and rotated when the gas supply runs low, upon which Virtual Gas Network immediately despatches a replacement tube trailer. One bay remains open for the replacement tube trailer to enter.

“Coal is bad for the environment; we know it eats the ozone” Melusi Nhlapho -chief artisan and operating supervisor, Pholosong Hospital

Natural gas is the cleanest of all fossil fuels, burning Natural Gas, for instance, produces nearly half as much carbon dioxide per unit of energy compared to coal. Pholosong Hospital reports smoother operations since switching to an environmentally friendlier alternative, Natural Gas.

“They [equipment] often broke down in the rainy season, when the coal was wet and the scooping mechanism failed to provide sufficient coal to the burners. A further disadvantage was to remove ash from the burners, even as they were in operation.” Melusi Nhlapho -chief artisan and operating supervisor, Pholosong Hospital

The combustion of natural gas releases very small amounts of nitrogen oxides (NO_x), sulphur dioxide (SO₂), carbon dioxide (CO₂), carbon monoxide (CO), other reactive hydrocarbons and virtually no particulate matter. Coal and oil are composed of much more complex molecules and when combusted, they release higher levels of harmful emissions such as nitrogen oxides and sulphur dioxide. They also release ash particles into the environment, this makes maintenance problematic and costly.

“Hospitals consume more energy than other non-residential buildings per square meter of floor space, partially because they are continuously operating.” Energy Usage of Hospitals: Stanford University

Pholosong Hospital has been running more efficiently with an environmentally and cost friendlier fuel. Any disruptions in the system are picked up immediately by means of telemetry, which links the hospital to CNG Holding's Virtual Gas Network plant in Langlaagte. For this reason, troubleshooting takes place within minutes and the problem can be resolved without unduly interrupting the hospital operations.

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