

Title of Article : *Intelligent Traffic monitoring and hybrid energy systems for BTS OPEX reduction.*

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Abstract: A predominant approach at developing a low cost system for GSM networks has been targeted at the power section due to its prime position in the overall financial requirement both at the CAPEX and OPEX. Ericsson developed a hybrid network approach which involves the replacement of one of the generators required at the cell site with a bank of specially designed high capacity batteries. This approach reduced the cost of fuel required by 50% due to the utilization of only one generator. Its set back is in the requirement of specially designed batteries. Another low cost approach is the use of bio-diesels which was also pioneered by Ericsson. The use of Solar/wind power system to replace the diesel generators at BTS cell sites is an approach pioneered by Motorola, GSMA and MTC. The development of energy efficient equipment is another approach aimed at reducing the cost of a GSM network, prominent under this is the development of soft switches and low power transceivers. The use of intelligent traffic monitoring and hybrid energy supply systems where the variation in the telecom traffic both in the residential and business areas allow the use of renewable energy sources to provide energy for the BTS during periods of low traffic has been found to yield significant OPEX cost saving.