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Embedded Smart Meter System (ESMS)

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In light of the increasing cost of electricity and the Global Warming campaigns to reduce general electricity usage, there is a growing interest in analysing power consumption in households[6]. By analyzing the electricity usage of appliances more accurate conclusions can be drawn on their efficiency and need for replacement . Furthermore , this can also determine whether an appliance is drawing unusually high amounts of power when turned off and whether it should rather be unplugged. In this way electricity consumption and cost can be reduced[1] .

The smart meter project is one of the most important needs these days, In Smart Grid ; the smart meters are versatile role with intelligent capabilities in order to meet the consumer's demands and each objective[5]. Smart meter can measure and communicate detailed real-time electricity usage, facilitate remote real-time monitoring and control power consumptions and consumers are provided with real time pricing and analysed usage information, which is a technical data to be transmitted to the grid, who are utility providers. More detailed feedback on each appliance to the user[5].

Future smart grids will likely to be more tightly integrated with the cyber infrastructure for sensing, control , scheduling , dispatch, billing and cyber-attacks can be detected by using smart meters and also ordering the power demand through online[6].

Every home uses electricity with different consumption and different amounts of watts according to the different types and numbers of the appliances they have[1].

Our proposed system offers a real tine feedback on the entire electricity usage and the consumption of many appliance at device level as a result, This allow the user to monitor measure and compare their energy consumption and electricity level on house hold and on device level[5].