Energy Efficiency
Switch to Results

Syed Mansoor Ahmad

In more mature markets and particularly in large commercial organizations, there is a stronger drive towards accepting and implementing energy management practices. Firms are setting long-term energy management goals, and are prioritizing energy management initiatives, writes the author.

Big Data is percolating through all aspects of our lives today. Almost all organizations are utilizing the power of big data to study industry trends and improve sales. Even in the energy and energy infrastructure space, we see huge volumes of Energy and Asset Performance data that are collected from a diverse ecosystem. However, organizations in this space have a clear cut challenge - to reduce energy consumption without impacting customer comfort, business operations or product integrity as the case may be. They have access to multiple sources of data but are unable to use it to achieve tangible results. They not only have to collect the data but also need to evaluate it all and ultimately use it to drive energy efficiency measures.

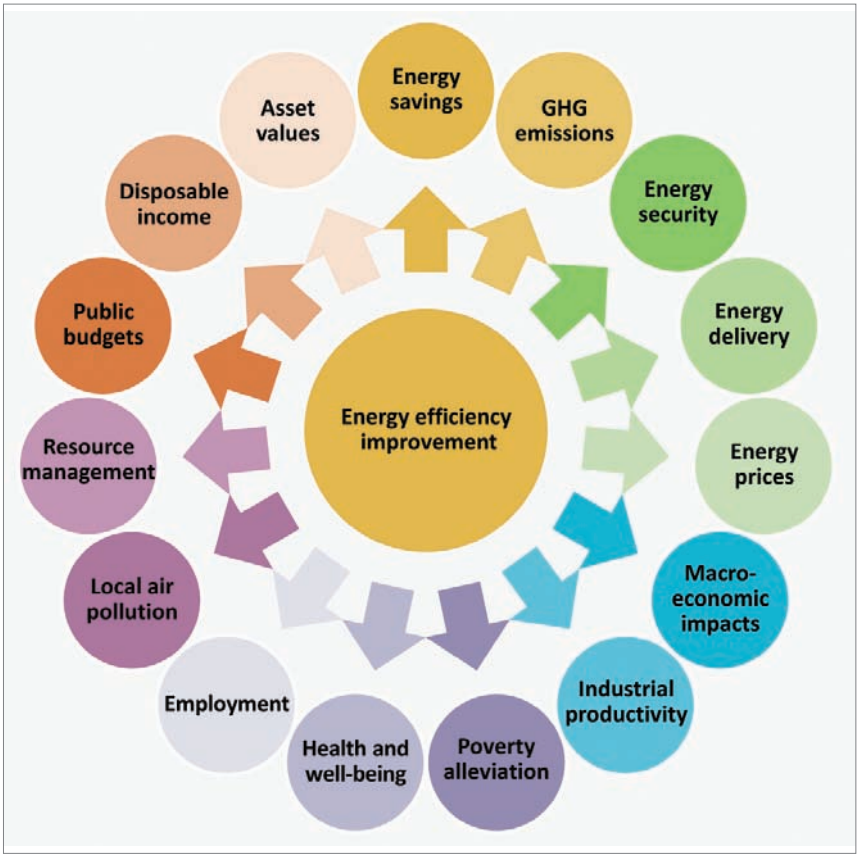
A recent report by International Energy Agency (IEA) titled 'Capturing the Multiple Benefits of Energy Efficiency' states that the market for energy efficiency is growing, with the aggregate annual investment reaching $300 billion in 2012 – equal to investments in coal, oil and gas generation. The resulting savings have been larger than the energy provided from any other fuel. Energy efficiency has the potential to support economic growth, enhance social development, advance environmental sustainability, ensure energy-system security and help build wealth. IEA analysis has also shown that the uptake of economically viable energy efficiency investments has the potential to boost cumulative economic output through 2035 by $18 trillion – larger than the current size of the economies of the US, Canada and Mexico combined.

Energy management can be carried out effectively through continuous co-relation and analysis of different variables that affect energy consumption such as the type of facility, asset, process, weather data, etc. At the very core of energy optimization, lies the process of gathering device level data using an intelligent energy management platform, analyzing the information and subsequently deriving useful insights. Long-term data analytics allow for trending and benchmarking with other facilities in the enterprise and in the industry. Armed with this intelligence, new policies and procedures can be devised which optimize efficiency and improve asset performance, resulting in service reliability at a lower cost.

Energy Management practices and requirements vary across customers and across geographies and we see significant differences between markets like India and the more mature ones like North America.

In developing markets, energy accountability seems to be lacking at large. While senior management within organizations realize the importance of managing energy consumption, teams who are specifically responsible for driving improvements (operations, real estate, sustainability, etc.) are still warming up to energy efficiency priorities. Most often times, a legacy mindset perpetuates an "always on, all the time" practice. Also, in the effort to reduce energy bills, the organizations land up compromising on operating policies. For instance, in restaurants chains, air-conditioning units are not turned on if there are only a few customers in the restaurant. However, when a sizable number of customers walk in, the managers take notice of the air-conditioning and turn on the units. This leads to inconsistent and below par service to customers.

Availability of energy consumption data is another challenge as usage



Summary of multiple benefits of energy efficiency (Source: IEA)

records are not available within most establishments, barring a few MNCs such as global retailers and restaurants. This adds to the difficulty in baselining the energy consumption and thus devising bespoke plans to improve energy efficiency. In the absence of Building Management Systems, there is an increasing need to have a technology that can combine with multiple technologies deployed at the site(s), to retrieve data. This will allow the enterprises to get an insight into the operations at the site(s) and devise be-poke plans to save energy.

In more mature markets, there is a stronger drive towards accepting and implementing energy management practices, especially in large commercial organizations. Firms are increasingly taking significant measures to reduce energy consumption by putting in place long term internal and public energy management goals. They are also increasing their focus on cost optimization and profit improvements as well as funding from utilities for behaviour change (through demand response) and retrofits (through incentives) to prioritize energy management initiatives.

Availability of energy consumption data, analytics and reporting is driving innovative thinking within utilities firms (de-regulated market), around energy assets that can help them become more efficient. Utilities are focusing on demand-side data analytics to enable energy efficiency on a large scale, driving savings from operational improvements. Convergences of technologies such as Machine to Machine (M2M) and the Internet of Things (IOT) are creating tremendous opportunities to control assets/equipment, study customer behavior and drive demand response and efficiency as integrated programs.

Regardless of the geographies that customers operate in or the technologies they incorporate, IT solution providers must works towards instituting service models that are aimed at optimizing energy consumptions; reducing energy costs and enabling better usage of energy infrastructure. The need of the hour is to build efficient platforms and solutions that will provide uniform, reliable, and universal building performance data with the long term aim of analyzing the customers' operations and consumption patterns, achieving significant savings and then accelerating the results over a period of time to ensure sustainability of the program. In other words, IT service providers must adopt an approach that will help energy and utility firms 'Switch to Results'.

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Cabinet approves T&D upgrade project for NER

The Union Cabinet has approved the North Eastern Region Power System Improvement Project (NERPSIP) for six states (Assam, Manipur, Meghalaya, Mizoram, Tripura and Nagaland) for strengthening of the intra state transmission and distribution system, at an estimated cost of Rs.5111.33 crore including capacity building expenditure of Rs.89 crore. The scheme is to be taken up under a new Central Sector Plan Scheme of the power ministry, with assistance from World Bank. The project will be funded on 50:50 basis by the government of India and World Bank.

As the intra-state T&D systems in the northeast region (NER) have remained very weak, the Central Electricity Authority developed a comprehensive scheme for the northeastern in consultation with the Power Grid Corporation of the India Ltd and state governments concerned. The project shall be implemented through PGCIL in association with the six states in 48 months from the date of release of funds to PGCIL. After commissioning, the project will be owned and maintained by the respective state governments.