Alliance for an Energy Efficient Economy

ASHOKA UNIVERSITY | CENTRE FOR A People-centric Energy Transition

Building a Culture of Energy Efficiency

POPULATION-SCALE, PEOPLE-CENTRIC SOLUTIONS FOR VIKSIT BHARAT

A Call to Action for National Energy Efficiency Movement

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1. THE STRATEGIC CONTEXT: FROM ENTITLEMENT TO RESPONSIBILITY

1.1 Aligning With Viksit Bharat And Atmanirbhar Bharat

As India marches towards becoming a developed nation by 2047 (*Viksit Bharat*), energy security must be the bedrock of our economic sovereignty. A truly "Developed India" cannot be achieved solely by focusing on energy supply; it requires an uncompromising focus on how sustainably we produce, supply and consume energy. Energy efficiency should be India's "First Fuel" i.e., the critical lever for achieving *Atmanirbharata* (self-reliance) and decoupling economic growth from energy consumption and associated greenhouse gas emissions. This decoupling is essential for India to meet its international commitments under global climate targets.

1.2 The Imminent Energy Challenge

Growth trajectory: India's total energy demand is expected to grow 2 to 2.5 times by 2047 to fuel industrialization, services, and urban growth. It will require large investments, but these need to be financially sustainable and environmentally sound.

The cooling crisis: Rising temperatures are transforming demand for cooling from a luxury to a necessity. Residential cooling demand is projected to rise 8x between 2018 and 2038, likely creating massive summer peaks that will strain grid stability and raise power cost for households and businesses

The water-energy nexus: The link between water and electricity is significant and cyclical. Municipal water systems are energy-intensive, with 40–60% of operational costs linked to electricity for pumping, treatment, and distribution. At the household level, electricity is further expended on booster pumps and water heaters. Thus, any wastage of water leads to significant energy wastage at the municipal and household level.

1.3 Building A Culture Of Efficiency

While supply-side measures remain essential, they are no longer sufficient in isolation. The future of the electricity sector lies in integrating supply with robust demand-side strategies. While the power distribution companies are leading the transition, citizens could be an accelerator that help the companies transform into modern utilities. The next phase of India's clean energy transition must be rooted in **citizen action**. We must move from a mindset in which energy is an unlimited entitlement to one in which it is a productive but **shared resource with common civic responsibility.** The next phase of transition must be rooted in *Jan Jagrukta (Awareness) and Jan Bhagidari (Participation)*. If properly harnessed, then the citizen actions would also enhance the quality and reliability of utility services. The recent volatility due to geo-political tensions highlights the importance of engaging citizens in a meaningful and continued dialogue. Energy planning needs to be participative, proactive and productive. Under such an approach, Wasteful or excessive consumption should no longer signal prosperity. Instead, thoughtful and responsible use must become the hallmark of a truly affluent and aware society**.**

2. OUR SHARED PURPOSE: PEOPLE CENTRIC TRANSITION

Our view is that efficient resource use must become a shared civic discipline, similar to universal safety norms. True progress lies in the intelligent, responsible stewardship of our collective resources, not wasteful consumption. Climate change does not distinguish between income groups. Grid failures, heatwaves, and water shortages could affect all segments of society. This shared vulnerability necessitates a shared resolve. Every unit saved at the household level is a collective contribution to the nation's energy and resource security and financial autonomy. It also enables households to save and invest in productive assets and activities. Towards this, AEEE's and ACEPT's respective vision are as follows:

AEEE's Vision: Catalyze responsible use of energy for a climate resilient and energy secure future. We are working to build a nationwide culture and market for energy efficiency by engaging governments, industry, and civil society.

Operating at the intersection of policy, markets, finance, and on-ground implementation, AEEE enables the adoption of proven energy-efficient solutions that support India's climate action, sustainable development, and net-zero ambitions while ensuring an equitable transition.

At the core of its approach is the recognition that technology alone is insufficient and lasting impact requires behavioral change at scale. AEEE therefore focuses on simplifying adoption, embedding efficiency into everyday decisions, and making the right choices the easiest ones. By aligning systems, incentives, and citizen behavior, AEEE is driving a shift from efficiency as a technical intervention to efficiency as a social norm.

ACPET's Vision: Advancing a transition that puts citizens at the center of energy decision-making. Ashoka Centre for a People-centric Energy Transition (ACPET) was established to support energy transition towards a net-zero economy and to address a critical knowledge gap in this pathway for India and the Global South. ACPET attempts to build frameworks, pedagogies, and solutions that are context-responsive, people-centric, and advance the three pillars (economic, social, and governance) of sustainable growth.

ACPET believes in collaborative working, knowledge-sharing, and capacity-building at various levels. Through periodic reports, op-eds, policy briefs, and publications, ACPET facilitates an informed discourse on energy transition in India and beyond.

3. FIVE EVERYDAY HABITS FOR A CULTURE OF EFFICIENCY

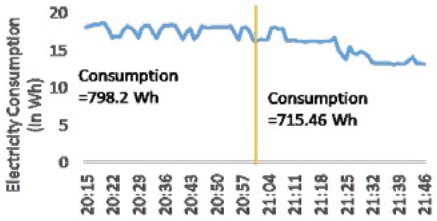
AEEE and ACPET have handpicked the following five everyday actions that, when adopted at scale, can deliver transformative national impact. Most require low or modest upfront investment, rely on readily available solutions, and can be implemented without disruption to daily life. Yet, their aggregate impact is significant in terms of reducing household energy bills, lowering system peak demand, easing pressure on public infrastructure, and improving climate resilience. These actions are fully aligned with the spirit of Mission LiFE, which calls for sustainable lifestyles and mindful consumption to be at the center of India's development pathway.

The "Habit"	The "Why"	Citizen Action and Cultural Shift	The "Pull"
A. Efficient Use of Room Air Conditioners	ACs are the largest drivers of urban electricity consumption and peak demand. The misconception that setting temperatures as low as 18°C or even 20°C cools rooms faster leads to unnecessary energy use; in contrast, increasing the setpoint, for instance by 2°C, can deliver at least ~10% energy savings while maintaining comfort.	**Action:** Maintain default set-point between 24-28°C. Use Ceiling fans in combination to reduce air conditioner usage. **Shift:** From *"Max Cooling"* to *"Optimal Comfort."*	Comfort without bill-shock - Optimal cooling at significantly less cost.
B. Use of Water-Efficient Aerators	Reducing water flow at the tap directly reduces the water requirement, and indirectly the electricity consumption associated with pumping and water heating.	**Action:** Install low-flow aerators on all faucets. **Shift:** Recognizing that "Water Saving = Water Saving + Energy Saving."	High-pressure feel with half the water and energy.
C. Smart Operation of Storage Water Geysers	Water heaters are among the highest electricity-consuming appliances in urban households. The storage water heaters are efficient, and they can store hot waters for hours.	**Action:** Use timer-based water heaters or automate heating when the grid demand is less to reduce peak morning and evening loads on the grid. Shift: From "On when needed to off-peak scheduling"	Heat water during off peak time and save money.
D. Solar Reflective Paints for Roofs	Rooftop heat gain significantly increases indoor temperatures and the demand for AC usage.	**Action:** Solar reflective roof coatings and basic shading devices can reduce indoor temperature by 2–5°C, even more, leading to 10–20% savings in cooling energy consumption. **Shift:** From *"Active Cooling"* to *"Passive Prevention."*	Reduce your cooling bill.
E. Replacing Older Fans with Super-efficient Fans	Ceiling fans run for 12–16 hours a day in India. A conventional fan consumes ~75W, while a BEE 5-star rated fan consumes below ~30W	**Action:** Replace aging fans with BEE 5-star models. Clean fan blades regularly to maintain efficiency. Shift: From *"Upfront Cost"* to *"Total Lifecycle Value."*	Recover cost within 18 months through energy savings.

To illustrate how some of these interventions, translate into real-world impact, three case studies are presented below. Each case captures the starting situation, the behavioral change, and the resulting impact thereby demonstrating how simple, citizen-centric actions can deliver measurable benefits at scale.

3.1 Efficient Use Of Room Airconditioners

The Situation: The rapid growth of room air conditioners (RACs) in India is expected to boost sales from ~14 million units in 2024 to ~30 million by 2030, significantly increasing electricity demand, especially during non-solar hours. Kerala follows the trend, with the residential sector accounting for nearly half of the state's total electricity consumption, RAC penetration expected to rise from ~1.8 million in 2024 to ~3 million by 2030. Rising summer temperatures and humidity are driving electricity demand in Kerala at an approximate CAGR of 5%.



The Intervention: AEEE partnered with the Energy Management Centre (EMC) Kerala for a pilot project to optimize air conditioner usage without sacrificing comfort. This behavioral energy-efficiency initiative encouraged households to set higher RAC temperatures (around 26°C) via the Urja Sanchay mobile app, which displayed real-time power consumption, sent nudges, and promoted the use of ceiling fans alongside ACs.

Field Learnings: The pilot provided valuable insights, notably that diverse onboarding strategies-targeting educational institutions, townships, and local communities through RWAs-and addressing privacy concerns are vital for increasing engagement in tech-based programs. Operational barriers are higher with retrofitted devices, requiring longer testing periods. In contrast, software-based nudges, such as messages or WhatsApp notifications, are easier to scale without hardware modifications.

The Impact

Quantifiable Results

- **Energy savings:** Participating households reduced electricity consumption by **~2.7%** compared to the control group.
- **Behavioral insight:** Comfort drives AC settings; 63% of households already use fans with ACs, indicating potential for higher set-point adoption.
- **Scalability:** Demonstrates potential for a statewide behavioral efficiency program, with possible savings of 328 GWh and over 2.48 lakh tCO_2 by 2030.

3.2 Use Of Aerators In Faucets

The Situation: India faces growing urban water stress, with nearly 600 million people affected and water demand is projected to exceed available supply by almost two times by 2030 . Despite a normative urban water supply standard of 135 litres per capita per day (LPCD), many cities fall short, highlighting the need for demand-side efficiency measures.

The Intervention: Aerators are simple and extremely low-cost devices attached to faucets that mixes air into the water stream, thereby improving supply pressure yet reducing water consumption by 50% or more (up to 90%), without any user perception in water reduction. These can be fitted to most existing taps (~95%). By reducing water use at the tap, households also reduce the infrastructure and energy required for water pumping and supply. A typical urban household of five (using 135 LPCD) consumes about 675 litres of water per day. With aerators reducing water usage by ~50%, this results in savings of ~338 litres per day per household. Considering an energy intensity of ~2.88 kWh per 1,000 litres of water supplied, this translates to ~355 kWh of electricity savings per household per year.

The Impact

Quantifiable Results

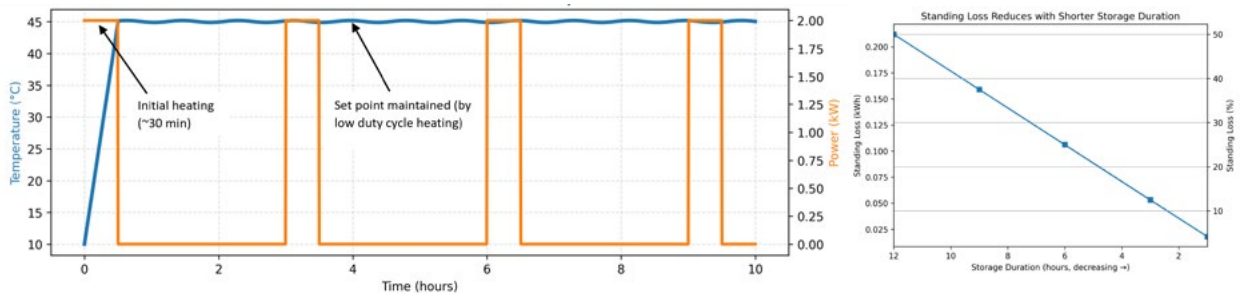
- **Water savings:** Aerators reduce tap flow from 8–15 L/min to as low as ~1.2 L/min, saving up to 90% water (~1,200 litres per tap per month) and are compatible with ~95% of taps.
- **Behavioral insight:** They maintain a steady flow; users typically do not perceive a reduction in water availability, enabling water savings without requiring any change in user behavior. However, the aerators will require periodic cleaning in 3-6 months to remove sediment deposits.
- **Scalability:** Implementing a municipal-wide program in a city with ~10 lakh households, with five aerators per household, can save ~123 billion litres of water and ~355 GWh of energy annually. With an estimated implementation cost of ~ 150 per household (15 crore total), the investment can be recovered in less than a month, making it a highly cost-effective and scalable solution.

3.3 Smart Operation Of Storage Water Heaters

The Situation - Electric storage water heaters are among the high electricity-consuming appliances in urban Indian households. With ~50 million storage water heaters installed nationwide (estimated based on IRES 2020 survey, NSO & NSS data, BEE impact assessment reports) their simultaneous operation during winter morning hours (6-9 AM) contributes heavily to electricity demand peaks (almost 50% coincidence). However, unlike many consumer appliances, storage water heaters inherently function as thermal storage systems, capable of storing hot

water hours before use. Despite this flexibility, most households switch geysers on just before use due to a common misconception that it is a continuous energy consumption appliance, inadvertently concentrating demand during already stressed peak periods.

Thermostat-Controlled Geyser Behavior (on-off duty cycling with short on bursts, long off periods)



The Intervention: The proposed intervention evaluates a behavioral and policy nudge; encouraging households to shift water heating to off-peak hours (late night or early morning) using simple mechanisms such as timer-based operation, smart plugs, or time-of-day tariffs. Because modern storage water heaters are well insulated and is a mandatory product under the Star Labelling scheme, hot water can be stored for several hours with minimal heat loss, making them an ideal candidate for demand-side load shifting. In reality, once the set temperature is reached, the heater switches off automatically and only turns on intermittently to maintain temperature. For example, the standing loss for a BEE 5-star geysers of 25 L capacity is 0.423 kWh/24hour/45°C . The benefits of shaving peak load by heating water in off-peak hours (3-12 hours before hot water usage incurs a marginal standing loss of only 0.053-0.212 kWh/45°C), far exceed the additional cost incurred on standing loss.

The Impact

Quantifiable Results

- **Demand savings:** Smart scheduling of water heaters flattens the morning peak. If 10% of the water heaters (5 million) are shifted to off peak hours, the resulting peak reduction is ~5 GW in morning peak demand, roughly 2% reduction in India's national peak demand. Peak saving benefit is ~100 times than the extra energy usage due to operation in off-peak hours and bearing the standing loss. . It also prevents the grid strain that leads to power cuts for everyone.
- **Behavioral insight:** Address the misconception of storage water heater being a continuous energy consuming appliance. Geyser heats once, then maintains temperature with minimal energy.

4. ENABLING A POPULATION SCALE MOVEMENT

If 50% of Indian urban households adopt these five repeatable habits, India could potentially avoid the need for 20-25 GW of peak capacity and save billions in fuel imports. By making efficient choices simple, visible, and aspirational, these habits have the potential to evolve into a nationwide movement driven by citizens themselves. This is not just a climate win; it is a fiscal and grid-stability necessity.

4.1 How Sub-National Governments Can Enable The Movement

India already has strong national programs such as Bureau of Energy Efficiency initiatives and the Energy Efficiency Services Limited implementation model. It is critical to move from "knowledge" to "action" and state as well as regulators are the key delivery actors because they control electricity distribution utilities, tariffs, and building enforcement. Therefore, it is critical to design policies and programs based on local context and challenges. This section discusses some of the key elements that provide insights to enable design of sound policies and programs to accelerate energy efficiency at the state level.

A. Policy Nudges To Encourage Energy Efficiency

Policy nudges are subtle interventions in policy design that encourage individuals, businesses, and institutions toward more energy-efficient choices without imposing rigid mandates. They are typically based in behavioral economics, and work by reshaping the "choice architecture" around energy consumption so that efficient actions become easier, more attractive, and socially reinforced. When deployed systematically, nudges can unlock large-scale energy savings at relatively low cost.

Efficient choices as the default: One of the most powerful nudges is the use of default options. Individuals often stick with pre-selected choices because changing them requires effort and attention. States can design programs where efficient options are automatically selected unless users actively opt out. For instance, new residential developments can incorporate energy-efficient lighting, insulation standards, and thermostat settings as default configurations. Similarly, participation in demand-response programs or time-of-day electricity tariffs can be structured as opt-out schemes. Evidence across sectors shows that shifting from voluntary opt-in systems to default enrollment can increase participation dramatically.

Learning from neighbours and communities: Another highly effective approach involves social comparison and normative feedback. Individuals tend to adjust their behavior based on how they perceive themselves relative to peers. Discoms and regulators can leverage this behavioral tendency by providing households and organizations with information about their energy consumption compared with similar users. Home energy reports, for example, can be used in case of domestic consumers while commercial buildings can be benchmarked against sectoral averages. When energy reports reveal that a consumer is performing worse than peers, it often motivates voluntary reductions in consumption.

Making energy use visible in real time: Timely feedback and consumption visibility also function as powerful nudges. Policies that promote real-time information-through smart meters, digital dashboards, and energy monitoring devices-help users connect everyday behaviors with electricity consumption. When people see how switching off appliances, adjusting setpoint temperature settings, or scheduling activities differently affects energy use, they are more likely to adopt efficient habits. Studies consistently show that access to real-time feedback can reduce electricity consumption by several percentage points.

Hassle-free access to efficiency: Another aspect of nudges relates to reducing friction in adoption of efficiency programs. Many individuals support energy efficiency in principle but are unable to adopt efficient technologies due to administrative complexity or uncertainty about benefits. This can be addressed by simplifying procedures, reducing paperwork, and integrating energy efficiency incentives into existing service channels. For example, rebates can be applied automatically at the point of purchase rather than requiring consumers to submit post-purchase claims. Digital platforms can allow households and businesses to check eligibility for efficiency

incentives instantly. By minimizing administrative barriers and transaction costs, governments can significantly increase participation in efficiency programs.

Turning energy saving into a positive habit: Another option is to use gamification and reward structures. Energy-saving actions can be integrated into digital platforms that track consumption and award points, badges, or recognition for efficient behavior. Communities, schools, or office buildings can participate in energy-saving competitions where participants accumulate rewards for reducing consumption or adopting efficient technologies. Although such incentives may be symbolic, they can significantly enhance engagement, particularly among younger users and digital-native consumers.

Simple messages that people understand: Governments can also use salience and framing nudges to make energy information more meaningful. Many electricity bills present technical information that is difficult for consumers to interpret. By redesigning bills to highlight key insights, such as daily consumption averages, estimated appliance-level usage, and potential savings from specific actions, it is possible to make efficiency opportunities more visible. Framing messages in terms of financial losses ("inefficient appliances could be costing your household several thousand rupees each year") often produces stronger behavioral responses than purely informational messages.

Right timing for maximum impact: Timing-based nudges are another promising approach. Consumers are more receptive to efficiency information at certain moments, such as when purchasing appliances, moving into a new home, or renovating a building. Policies and regulations can target these decision points by providing energy performance labels, financing options, and efficiency guidance precisely when choices are being made. Retail environments are particularly important: displaying lifetime electricity cost information alongside appliance prices helps consumers understand the long-term benefits of high-efficiency models.

Government leading by example: Finally, institutional nudges within government itself can play a significant role. Visible leadership from government buildings, schools, and hospitals can reinforce the broader social norm that energy efficiency is both responsible and achievable.

Taken together, policy nudges expand the energy efficiency policy toolkit by recognizing that energy consumption is influenced not only by prices and regulations but also by human behavior. By carefully designing defaults, providing timely feedback, simplifying program participation, leveraging social norms, and targeting key decision points, policies and regulations can encourage millions of small decisions that collectively produce significant reductions in energy demand.

B. Incentives To Accelerate Energy Efficiency

Despite clear long-term benefits, many households, businesses, and public institutions do not adopt efficient technologies at scale because of high upfront costs, limited awareness, and financing barriers. State governments and electricity regulators in India can address these barriers by designing well-targeted incentive mechanisms that expand, deepen, and accelerate the adoption of energy-efficient appliances, equipment, and practices across sectors. When combined with standards and behavioral interventions, financial and market-based incentives can accelerate energy efficiency and enable rapid deployment of efficient technologies.

Lowering upfront costs for households: One of the most direct mechanisms available to states is the provision of capital subsidies and rebates for high-efficiency appliances and equipment. Even when efficient products deliver lower lifetime costs, their higher initial purchase price

can deter residential consumers. Targeted rebates can help bridge this gap by reducing the upfront cost differential between standard and high-efficiency models. Programs modelled on successful initiatives like large-scale LED distribution have demonstrated that bulk procurement and aggregated demand can significantly reduce prices while delivering substantial electricity savings. Similar models at state level can be used for super-efficient fans. Payment mechanisms such as on-bill financing allows consumers to repay the cost of energy-efficient upgrades through their electricity bills over time. Under this model, consumers face little or no upfront cost, and the repayment instalments are structured so that the monthly energy savings exceed or match the repayment amount. Because utilities already maintain billing relationships with consumers, on-bill financing can be relatively easy to administer and can achieve high repayment rates.

Linking incentives to performance: States can also promote performance-based incentives, which reward verified reductions in electricity consumption rather than simply subsidizing equipment purchases. In this model, energy service companies, building managers, or industrial operators receive payments based on measured energy savings achieved through efficiency improvements. This approach encourages innovation because service providers have flexibility to implement the most effective solutions, whether through equipment upgrades, operational changes, or digital energy management systems. Regulators can support such programs by establishing measurement and verification frameworks that ensure energy savings are credible and transparent.

Regulator enabled efficiency and demand shifting programs: Electricity regulators can further expand incentives by integrating demand response and load management programs into tariff design. Consumers who reduce or shift electricity consumption during peak demand periods can be compensated through bill credits or direct payments. These programs are particularly valuable in systems with growing evening peaks due to cooling demand. Incentivizing consumers to shift energy use to off-peak hours not only reduces the need for additional generation capacity but also improves grid reliability. State governments can design innovative credit programs such as Energy Systematic Investment Plans (E-SIP). With the ongoing rollout of smart meters in many states, demand response programs can be expanded based on voluntary choice and automated signals.

Unlocking state funds for scale: Another option involves the expansion of existing state energy conservation funds (SECF) dedicated to supporting efficiency programs across sectors. These funds can be financed through small surcharges on diesel sales, electricity duty and other sectors with high carbon footprint. A dedicated fund provides stable and predictable financing for efficiency initiatives, allowing states to support long-term programs. Funds can be used to support appliance replacement programs, smart retrofits, particularly for low-income households or offering risk guarantee for private sector ESCO initiatives.

Financing efficiency through utility-led programs: Finally, regulators can create market incentives for distribution utilities themselves to prioritize energy efficiency. Traditionally, utilities earn revenue based on the volume of electricity sold, which can discourage investments in demand reduction. Regulatory reforms that allow utilities to recover program costs and earn performance incentives for verified energy savings can align utility incentives with state energy efficiency goals. When utilities view efficiency as a resource comparable to power generation, they are more likely to actively promote efficiency programs among their customers.

C. Communications To Convey Energy Efficiency

Effective communication is a cornerstone for achieving large-scale energy efficiency, yet it is often overlooked in policy design. Given India's diverse population, heterogeneous electricity consumption patterns, and wide range of literacy and awareness levels, state governments and regulators must deploy multi-faceted communication strategies that both educate and engage stakeholders across sectors. Communication can amplify the impact of policies and incentives, making efficiency more tangible, socially valued, and behaviourally adopted. At the most basic level, communication ensures awareness of programs, standards, and benefits. Many households and businesses may not even know that high-efficiency appliances, LED lighting, or efficient motors are available, that rebates exist, or that installing such technologies will lower their energy bills.

Connecting with every citizen: State governments can run targeted campaigns through mass media channels such as television, FM, newspapers, and digital platforms highlighting the availability, financial benefits, and environmental impact of energy-efficient options. Messaging must be culturally and linguistically adapted to reach rural and semi-urban communities where energy literacy may be low. Multilingual campaigns, pictorial guides, and demonstrations in public spaces can help bridge awareness gaps.

Building trust through community voices: Partnerships with community institutions further enhance communication reach and trust. In rural and semi-urban areas, citizens often rely on local bodies, resident welfare associations, schools, and cooperatives for guidance. Engaging these institutions to disseminate information about appliance standards, rebates, and energy-saving practices helps overcome barriers of trust and accessibility. Demonstration projects in community centers or public schools allow citizens to experience energy-saving technologies first hand, reducing hesitation and skepticism.

Engaging the digital generation and influencers: Digital and data-driven platforms offer powerful tools especially for engaging youth and digitally savvy. An increasingly effective approach is leveraging influencers and opinion leaders as part of digital campaigns. Influencers, ranging from social media personalities and local celebrities to respected community figures, can make efficiency messages more relatable, credible, and aspirational.

Reaching the right households at the right time: Digital campaigns should also be data-driven and personalized, using analytics to segment audiences based on energy consumption patterns, geographic location, or appliance ownership. Tailored content delivered at the right moment, such as pre-summer cooling season or pre-winter water heating season, appliance purchase periods, ensures maximum impact.

From personal savings to shared responsibility: Framing and messaging style are also important. Communication that emphasizes personal benefits, such as lower electricity bills and improved comfort, tends to be more effective than abstract environmental arguments alone. Simultaneously, appeals to broader social and environmental benefits, such as reducing pollution or contributing to state climate targets, help align individual actions with collective goals.

Simple steps for real action: Beyond raising awareness, communication strategies should empower individuals to act by providing clear, actionable information. This includes explaining how to access rebate programs, how to compare appliance efficiency ratings, how to install energy-saving devices, or how to participate in demand response programs. Many energy efficiency decisions, such as replacing a room AC, involve multiple steps and actors. Providing

clear instructions, simple guides, and digital tools can reduce complexity and help citizens navigate program requirements. Mobile applications, SMS alerts, and interactive web portals can provide step-by-step guidance and track progress, turning abstract energy savings into tangible, measurable outcomes.

Finally, continuous monitoring and adaptation of communication strategies ensure effectiveness. States should track the reach, engagement, and impact of campaigns through surveys, consumption data, and program participation metrics. Feedback from citizens and businesses can guide refinements in messaging channels, content, and timing, making communication more targeted and impactful over time.

D. Data Driven Decision Making For Energy Efficiency

The ability to generate, analyze, store and interpret data is critical to enable energy efficiency, manage peak demand, and design time-of-use tariffs and broader energy conservation programs. However, the data ecosystem within electricity distribution companies remains underdeveloped, limiting both operational effectiveness and policy innovation.

From monthly billing to granular intelligence: Currently, most distribution companies continue to rely on monthly billing information, which lack insight into when and how electricity is consumed. Peak demand, however, is inherently a time-sensitive phenomenon, shaped by daily and seasonal usage patterns. Without access to high-frequency consumption data, utilities are unable to accurately identify peak contributors or design targeted interventions. This limitation extends to energy efficiency programs, where the absence of reliable baseline and consumption profiles makes it difficult to assess actual savings or program impact.

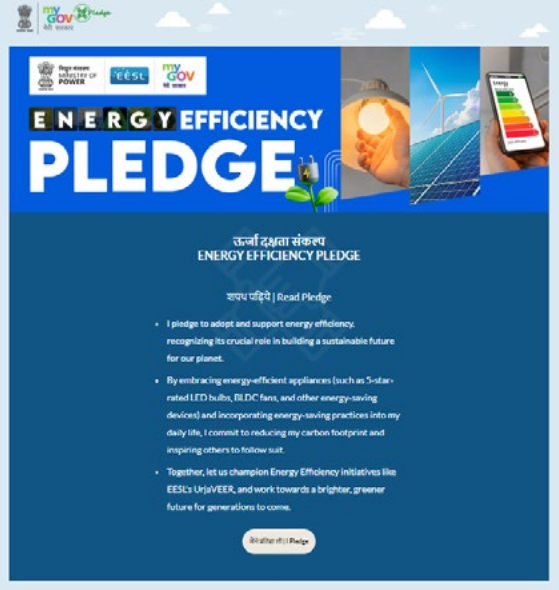
Using data for actionable insights: Even when more detailed data is available, its quality and usability are often compromised. As a result, valuable insights remain inaccessible, and decision-making continues to rely on approximation than evidence. These constraints have direct implications for tariff design and program management. Addressing these challenges requires distribution companies to treat data as a strategic asset rather than a by-product of operations. The rollout of advanced metering infrastructure is a critical enabler, but its value lies in how the resulting data is integrated and used. Equally important is the development of analytical capacity within organizations, enabling data to inform planning, forecasting, and consumer engagement in a systematic way.

Data standardisation by regulators: The role of regulators is equally important in creating an enabling environment. By mandating data standards and interoperability, regulators can reduce fragmentation and improve comparability across systems. At the same time, requiring the disclosure of anonymized, high-resolution data can foster transparency and support a broader ecosystem of innovation, while appropriate safeguards ensure consumer privacy and data security. Regulatory frameworks must also evolve to align incentives with desired outcomes. Performance-based approaches, where utilities are rewarded for measurable improvements in peak demand management or energy efficiency, can encourage investments in data systems and analytics. In such a setting, data becomes central to both accountability and performance.

4.2 A Call To Action

AEEE and ACPET jointly call for a national energy efficiency movement, a Bijli Bachao, Bharat Banao initiative. While power distribution companies are championing the energy transition, citizens are the accelerators that help the companies transform into modern utilities. The goal is simple: To make energy efficiency a “default setting” for every Indian citizen. When we save energy, we don’t just save money, we strengthen the nation, and we save the planet.

India has already institutionalized citizen responsibility in energy use through initiatives such as the national Energy Efficiency Pledge hosted on MyGov https://pledge.mygov.in/energy-efficiency/ and the LiFE pledge https://cpcb.nic.in/uploads/LiFE_Pledge.pdf, which calls upon individuals to adopt responsible consumption practices in their daily lives.



The civil society organizations have an important role to play as a catalyst that turns individual actions into a collective movement and embedding a lasting culture of energy efficiency. They are uniquely positioned to build awareness, demonstrate solutions on the ground, showcase relatable use cases and case studies, and enabling peer-to-peer learning. Towards these efforts, Alliance for an Energy Efficient Economy (AEEE) and Ashoka Centre for a People-centric Energy Transition (ACPET) are aligning policy, markets, and citizen behaviour to galvanize these ideas on people centric energy efficiency solutions into a movement for change.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