



Adoption of Household Energy-Efficient Appliances: Challenges and Consumer Behavior in South Asia

September 3, 2025

Md. Arifur Rahman Talukder
Bangladesh



**SAARC
ENERGY
CENTRE**

Energy for Peace & Prosperity

iDE Powering
entrepreneurs
to end poverty.



Md. Arifur Rahman Talukder

Certified Energy Manager (CEM), BSc in EEE, MSc in Renewable Energy, Masters in Development Studies
Project Manager, Clean Cooking Scale Up (CCSU)
Bangladesh, iDE Bangladesh

Short Bio of Arif Talukder:

Arif Talukder is a leading expert in **Renewable Energy, Energy Efficiency, and Business Development**, with over 12 years of experience across national and international research institutes, private companies, and NGOs. He is a Certified **Energy Manager (CEM)**, **National Solar PV Designer**, and **Clean Cooking Expert**.

Arif holds a **BSc in Electrical and Electronic Engineering**, an **MSc in Renewable Energy Technology**, and a **Master's in Development Studies**. He has served in technical and leadership roles with organizations such as **iDE, SNV Netherlands Development Organisation, Practical Action, CLASP-USA, and Eresi Solar-Denmark**, and collaborated with top universities including **BUET, UIU, Durham, Loughborough, and Southampton in the UK**.

His expertise spans **Renewable Energy Technologies, Energy & Green Building Audits, Carbon Finance, Solar PV Systems, Clean Cooking Solutions, and Climate-Resilient Business Development**. Arif has contributed to national energy policy through committees such as the **National Biogas Guidelines Committee, National Action Plan for Clean Cooking (NAPCC)**, and **BSTI's standard & Labeling development group**, and has published in international energy journals.

Entrepreneurs are everywhere

A manifesto for
solving poverty.

iDE





FORTY

— YEARS OF —

CHANGE

NOT CHARITY

ESTD



1982

iDE



1982

2024

we are creating business opportunities in
the most challenging economies



**A GLOBAL ORGANIZATION
40-YEAR TRACK RECORD
40 MILLION IN SCALE**

**& PLENTY OF
MOMENTUM**

A PROVEN TRACK RECORD IN BANGLADESH

iDE has been growing prosperity in
Bangladesh since 1984

10

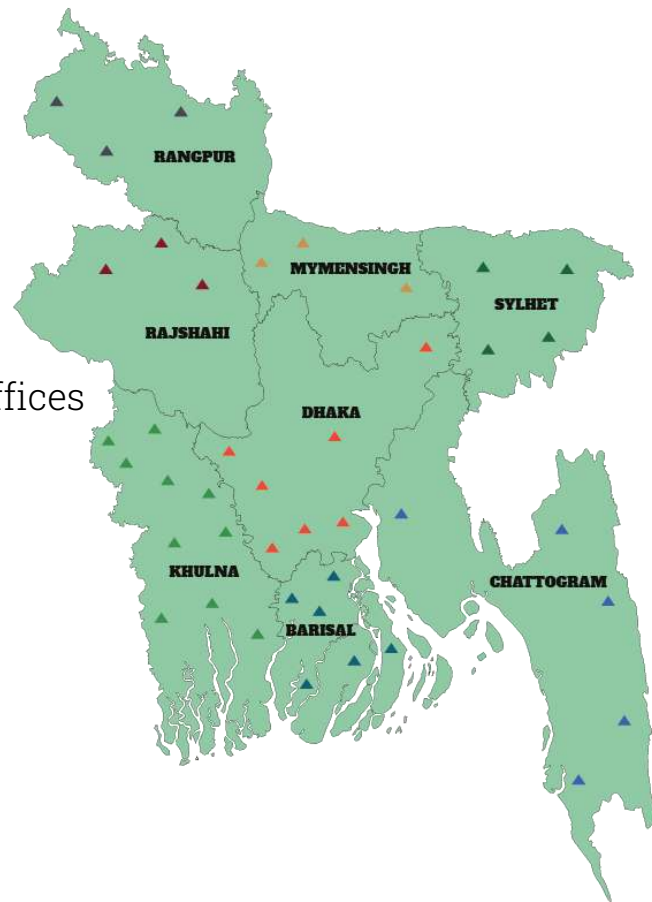
Projects

41

Field Hub Offices

200+

Employees



OUR SECTORS

WASH for Market

Agriculture for Entrepreneurs

Climate Resilience

Nutrition Sensitive Service Promotion

**EMBEDDED
EXPERTISE
IN MULTIPLE
COUNTRIES**

With 1,300 staff across 14 countries, we have deep expertise in the areas critical to our work.

- Gender Equity and Social Inclusion
- Human-Centered Design
- Behavior Change
- Measurement, Evaluation, Research, & Learning
- Participatory Evaluation Approaches
- Market Systems Development
- Rural Entrepreneurship
- Sales Agent Training & Incentivization

Agenda

iDE

- **The Context:** Why energy-efficient appliances matter
- **The "Why":** Benefits of Energy-Efficient Appliances
- **The Core Challenge:** Barriers to Adoption
- **Understanding the Consumer:** Behavioral Factors
- **Policy in Action:** Standards & Labeling Programs
- **Beyond Purchase:** Behavioral Modifications & Load Management
- **Strategy for Digital Footprint and Community Engagement**
- **Case Study- Clean Cooking Scale Up (CCSU) Bangladesh Project**
- **Conclusions & Recommendations**

Definitions of Energy Efficient Appliances

- **Performance-Oriented:** Appliances designed to provide the same service while consuming less electrical energy than standard models (U.S. Department of Energy, 2023)
- **Certification Standard:** Products that meet strict government energy performance criteria, often identified by labels like ENERGY STAR (ENERGY STAR®, n.d.).
- **Resource-Conscious:** Devices that minimize energy waste through advanced engineering, reducing utility bills and environmental impact (International Energy Agency, 2021)

Necessity of Energy Efficient Appliances

- **Economic Necessity:** They significantly reduce household utility bills and national energy expenditure, providing long-term financial savings (U.S. Environmental Protection Agency, 2022).
- **Environmental Imperative:** They are critical for reducing greenhouse gas emissions and mitigating climate change by lowering demand from power plants (International Energy Agency, 2022).
- **Resource Security:** They enhance energy security by reducing a nation's overall energy consumption and dependence on fossil fuel imports (U.S. Department of Energy, 2021).

History & Background



The concept of energy efficiency in appliances developed over the 20th century, gaining significant momentum after the 1970s energy crisis.



Government regulations like the National Appliance Energy Conservation Act of 1987 establishing minimum standards for major household appliances in the US.



While there isn't a single "first" energy-efficient appliance, the steam engine developed by James Watt in the 18th century is an early example of improved energy efficiency in industrial machinery.

Evolving of Energy Efficient Technology and parameters

- **1st Wave - Basic Efficiency:**
Characterized by a 5-15% reduction in energy use per device, focusing on improved insulation (R-value) and motor efficiency (IEA, 2021).
- **2nd Wave - Standards & Labeling:**
Driven by policies setting Minimum Energy Performance Standards (MEPS), leading to efficiency gains of 20-30% over baseline models (CLASP, 2022).
- **3rd Wave - Smart Integration:**
Leverages sensors and AI to enable 10-25% additional savings through adaptive, real-time optimization and demand response (McKinsey, 2023).

Why Household Appliance Efficiency Matters

Benefits



- **Economic Savings:** Lower energy bills for consumers and reduced operational costs for businesses (U.S. DOE, 2023).
 - **Environmental Protection:** Significant reduction in greenhouse gas emissions and air pollution from power generation (IEA, 2022).
 - **Enhanced Performance:** Often feature improved functionality, smarter controls, and increased durability compared to standard models (ENERGY STAR, n.d.).
-

Why Household Appliance Efficiency Matters

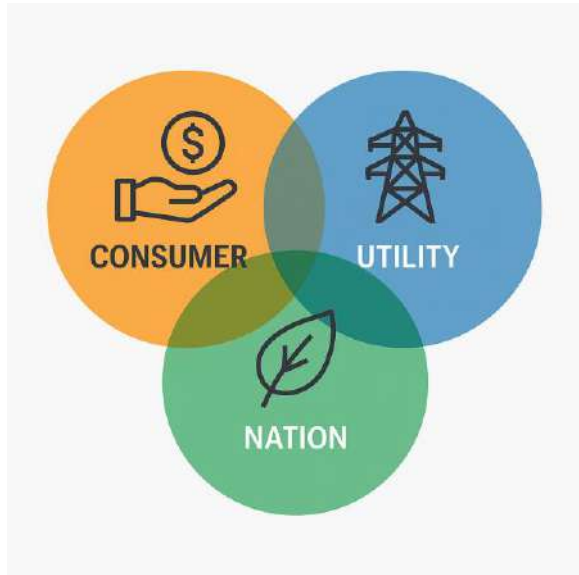
Challenges



- **Consumer Awareness:** Lack of understanding of long-term savings can make the higher sticker price a barrier (IEA, 2021).
 - **Market Fragmentation:** Inconsistent testing standards and energy labels can confuse consumers globally (CLASP, 2022).
 - **Access & Equity:** The high initial cost can limit access for low-income households, exacerbating energy poverty (WHO, 2018).
-

Why Household Appliance Efficiency Matters

Opportunities



- **Technological Innovation:** Drives advancement in smart grids, IoT integration, and ultra-efficient materials (McKinsey & Company, 2023).
- **Policy Driver:** Government standards and incentives stimulate market transformation and job creation in manufacturing (IRENA, 2020).
- **Grid Stability:** Widespread adoption reduces peak electricity demand, enhancing the reliability and resilience of the power grid, minimizing the risk of blackouts. Deferred investment in new power generation and transmission infrastructure. (U.S. EPA, 2022).

Why Household Appliance Efficiency Matters

Drawback



- **Higher Initial Cost:** Typically have a greater upfront purchase price than less efficient alternatives (ACEEE, 2021).
 - **Rebound Effect:** Lower operating costs can lead to increased usage, offsetting some energy savings (Sorrell, 2020).
 - **Complexity & E-Waste:** Advanced components can be more difficult and expensive to repair and may contribute to electronic waste (United Nations University, 2019).
-



”

*Conserving energy is
cheaper and smarter than
building power plants.*

Arthur H. Rosenfeld – Energy efficiency pioneer

Climate Aspect of Energy Efficient Appliances

- **Mitigation of Emissions:** They directly reduce CO₂ and other greenhouse gas emissions by decreasing the demand for electricity from fossil fuel-powered plants (IPCC, 2022).
- **Adaptation Co-Benefits:** By reducing strain on the power grid, they enhance resilience during climate-induced extreme weather events (IEA, 2023).
- **Life Cycle Impact:** While manufacturing may have a footprint, the dominant climate benefit comes from significant emissions savings during the use phase (UNEP, 2021).



Global Context of Energy Efficient Appliances

- **Significant Savings Potential:** The IEA estimates that efficient appliances could save over 1,300 TWh of electricity globally by 2030, equivalent to the current power generation of Japan (IEA, 2023).
- **Progress & Disparity:** Global energy efficiency improvements accelerated to 2.2% in 2022; however, progress is uneven, with emerging economies often lagging due to weaker policies (IEA, 2023).
- **Policy Penetration:** Over 85% of the world's energy use is now covered by mandatory energy performance standards, demonstrating widespread regulatory adoption (CLASP, 2022).



Energy-efficient appliances hold the power to unlock massive savings, but progress remains uneven stronger policies in South Asia can turn this potential into real, sustainable impact.

Martin Østergaard, DMFA delegation

Global Supply Side Facts

Market Value & Volume

The global energy-efficient appliance market was valued at approximately \$570 billion in 2023, with an estimated annual unit sales exceeding 800 million appliances (Grand View Research, 2024).

Leading Global Manufacturers

Multinational corporations like Whirlpool, LG, Samsung, Haier, Miele, and BSH (Bosch-Siemens) dominate production. For example, LG's annual sales of inverter-based appliances (e.g., ACs, refrigerators) exceed 50 million units (Company Report, 2023).

Distribution & Sales Channels

A multi-channel network drives market penetration, including large retailers (e.g., Best Buy, Home Depot) with dedicated "Eco" sections, e-commerce platforms (e.g., Amazon, JD.com) using efficiency filters and algorithms, utility-led "trade ally" programs that distribute subsidized units, and niche suppliers (e.g., Green Depot) targeting eco-conscious consumers, collectively accounting for over 60% of all high-efficiency appliance sales globally (Retail Dive, 2023; Bloomberg, 2023; ACEEE, 2022; Green Builder Media, 2023).



Financial Gains

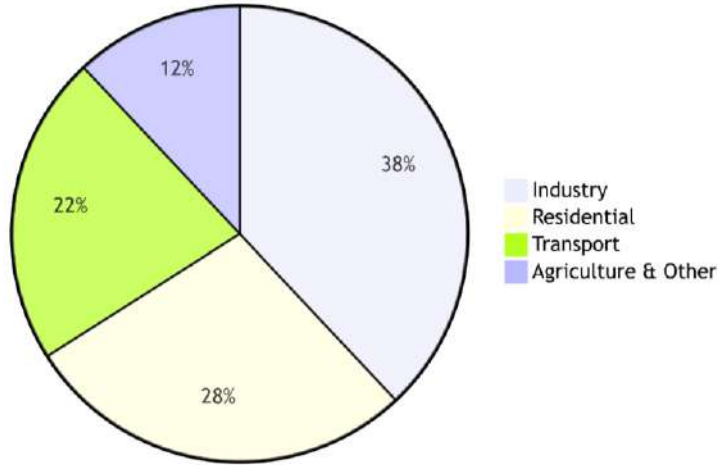
Substantial Utility Bill Reduction: The primary gain for consumers. An efficient inverter AC or refrigerator can save 20-40% in electricity consumption, leading to significant annual savings that offset the higher purchase price over time (IEA, 2023).

Reduced Government Subsidy Burden: By lowering national energy demand, EEAs reduce the need for government subsidies on fossil fuels and expensive peak-time power generation, improving fiscal health (World Bank, 2023).

Increased Asset Value: For real estate developers and homeowners, properties equipped with EEAs have higher market value and appeal, often selling or renting faster than conventional properties (U.S. Green Building Council, 2022).

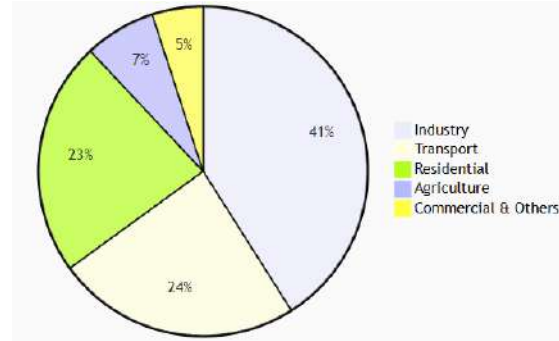
Market Creation & Job Growth: The EEA sector creates jobs in manufacturing, retail, installation, and maintenance, contributing to economic growth (IRENA, 2022).

SAARC Countries Key Sector Wise Energy Mix

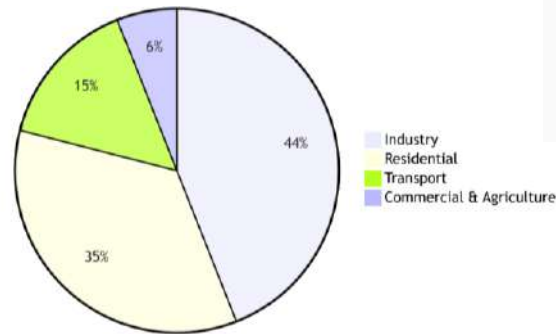


Estimated Cumulative SAARC Energy Mix

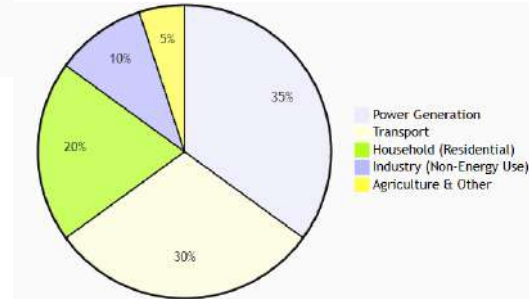
Source: AI Generated



India Energy Mix



Bangladesh Energy Mix



Pakistan Energy Mix

SAARC countries scenarios (1)

01

Growing Market Penetration

Fueled by rising electricity costs, urbanization, and government energy security concerns, the EEA market is expanding. India's Standards & Labeling (S&L) program, a regional leader, has influenced the sale of over 500 million labeled appliances since its inception (BEE India, 2023)

02

Policy Development

In many regions, enforcement of standards is lax, and the market is flooded with sub-standard, inefficient imports. Consumer awareness of long-term savings is also limited (USAID SAREP, 2022).

03

Primary Demand Drivers

The high financial burden of residential electricity consumption is the main driver, making EEAs economically attractive for urban, middle-class households seeking to reduce monthly bills (ADB, 2022)

SAARC countries scenarios (2)

01

Affordability Barrier

The high upfront cost of EEAs remains a critical obstacle for a significant portion of the population across South Asia, where per capita income is low (UNDP, 2023)

02

Weak Enforcement & Awareness

Most SAARC nations, including Sri Lanka, Pakistan, and Bangladesh, have established or are developing mandatory energy performance standards for key appliances like ACs and refrigerators, though enforcement remains uneven (World Bank, 2023)

03

Infrastructure & Market Gaps

The lack of robust testing facilities, underdeveloped financing mechanisms for consumers, and a reliance on informal retail channels hinder widespread adoption (World Bank, 2023).

SAARC countries scenarios (3)

01

Potential for Harmonization

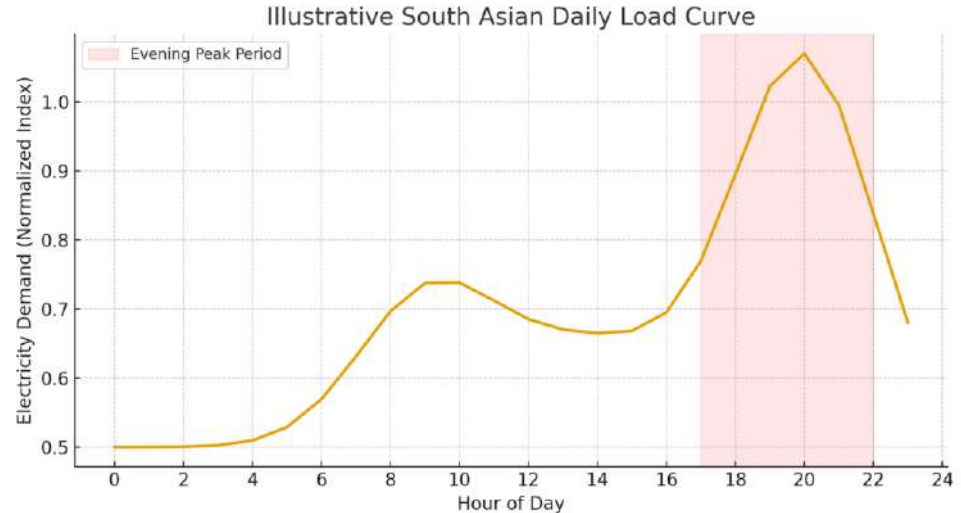
There is significant, untapped potential for SAARC countries to harmonize testing standards and labels, which would reduce manufacturing costs, curb cross-border trade of inefficient products, and accelerate market transformation (SAARC Energy Centre, 2021)

The South Asian Context: Soaring Demand & Peak Stress

- **Rapid Economic Growth & Urbanization:** Leading to a surge in appliance ownership (ACs, refrigerators).
- **Pe Demand Crisis:** Many South Asian countries face severe power shortages, especially during summer afternoons and evenings.

Example: India's peak demand deficit has historically been between 1- 4% (CEA), leading to load-shedding. Summer afternoon when everyone uses ACs, or an evening when lights, TVs, and appliances are on.

- **The Grid Stress:** A steep "load curve" with sharp peaks strains infrastructure and increases reliance on expensive, polluting peaking power plants.



A typical daily electricity demand profile with:

- A **morning rise** (work and school activity).
- A **midday plateau**.
- A **sharp evening peak (17:00–22:00)** – common in South Asian countries due to combined residential cooling, lighting, cooking, and industrial use.

Why Isn't Adoption Higher? Key Barriers



Higher Upfront Cost: Energy-efficient models (e.g., 5-star ACs) are significantly more expensive than 1 or 2-star models, a major hurdle for price-sensitive consumers.

Low Awareness & Trust:

- o Lack of understanding of life-cycle cost savings (payback period).
- o Mistrust in labeling programs; skepticism about actual savings.

Limited Availability: In rural and semi-urban markets, efficient models are harder to find.

Principal-Agent Problem: Landlords who buy appliances have no incentive to invest in efficiency as tenants pay the electricity bills.

Behavioral Inertia: Resistance to change and a focus on immediate cost rather than long-term benefit.

The Consumer's Mindset: Beyond Rational Choice



Cognitive Biases:

Present Bias: Overweighting the present cost vs. future savings.

Status Quo Bias: Preferring the default option (cheaper, less efficient appliance).

Heuristics (Mental Shortcuts):

Anchoring: The manufacturer's listed price becomes the anchor, making the efficient appliance seem too expensive.

Affordability Heuristic: "What can I afford to pay today?" vs. "What will save me money in 5 years?"

Social Influence: Purchases are heavily influenced by neighbors, family, and local retailers (who may push older stock).

Government's Key Lever: Standards & Labeling Programs



Minimum Energy Performance Standards (MEPS): Bans the sale of inefficient appliances below a certain threshold. *Raises the floor.*

Energy Efficiency Labels: Informative labels (like the Star rating system) that allow consumers to compare efficiency. *Lifts the ceiling.*

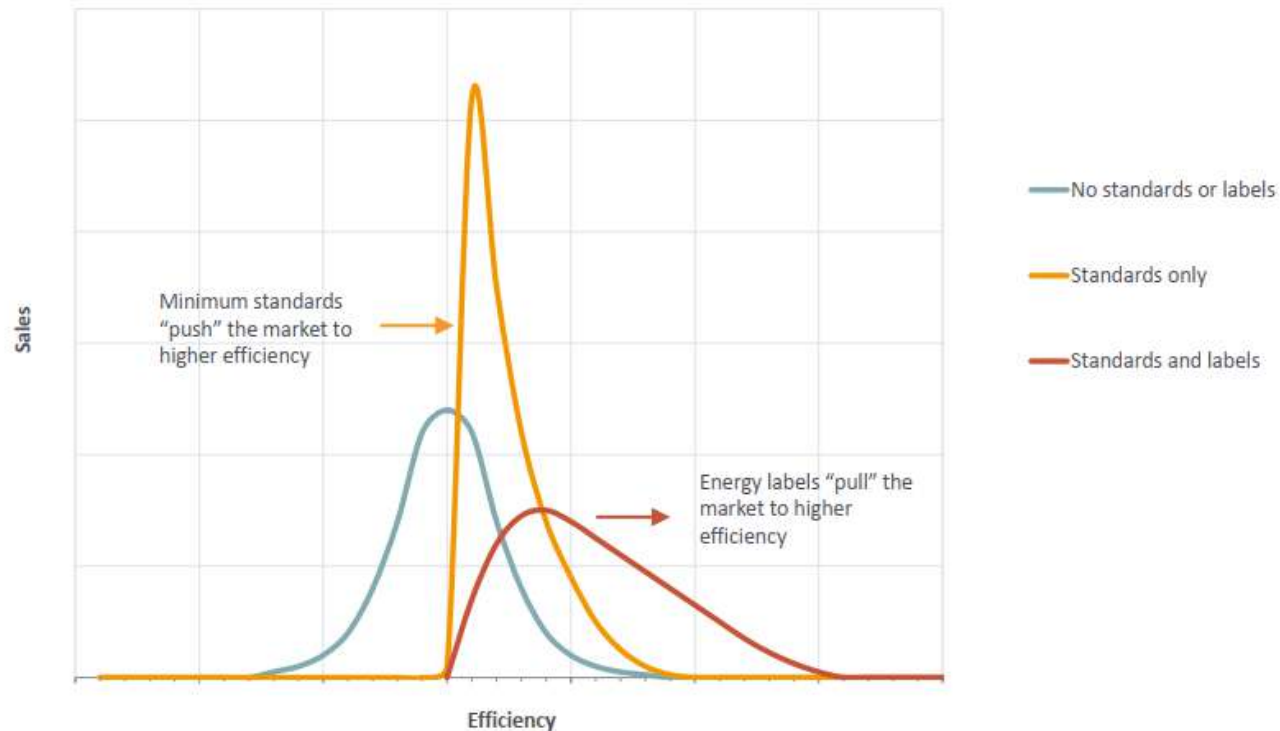
How it Works: 1 Star (Least Efficient) to 5 Stars (Most Efficient). Ratings are revised periodically to push innovation (a 5-star model today may be a 3-star model in 2 years).

Regional Policy Snapshot for S&L

Country	Label/Programme	Notes
India	BEE Star Label (2006-)	30+ categories; mix of voluntary/mandatory; QR-based verification being rolled out.
Bangladesh	SREDA/BSTI MEPS & Labels	Ceiling fan guideline (2025); Lighting MEPS mandatory from 2026.
Sri Lanka	SLSI/SLSEA labels	Mandatory for CFL/LED/fans; voluntary for others; TOU tariffs in place.
Pakistan	NEECA “Pakistan Energy Label” (2024)	Star-style; affixing rules notified; TOU tariffs common for 3-phase users.
Nepal	AEPC Standards & Labelling	Framework under development.
Bhutan	MoENR S&L approach	Adopts/aligns with Indian standards.
Maldives	Hakathari label	5-star program for ACs, refrigerators, washing machines

Source: BEE, SREDA/BSTI + CLASP, SLSI/SLSEA, NEECA SROs, AEPC Nepal, MoENR Bhutan, and Hakathari Maldives.

Benefits of standards and labels for product energy efficiency



Smoothing the Curve: Behavioral Modifications for Load Management

The Goal: Shift usage from peak hours to off-peak hours to "flatten the curve."

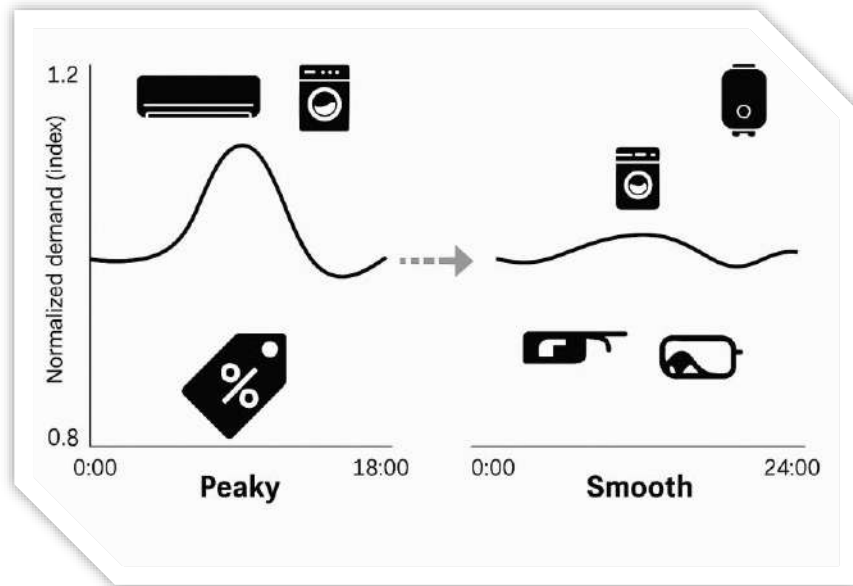
How Consumers Can Help:

Pre-cooling: Running ACs at a lower temperature *before* peak hours and switching to fan mode during peak times.

Delayed Use: Using washing machines, dishwashers, and water pumps during late evening or early morning.

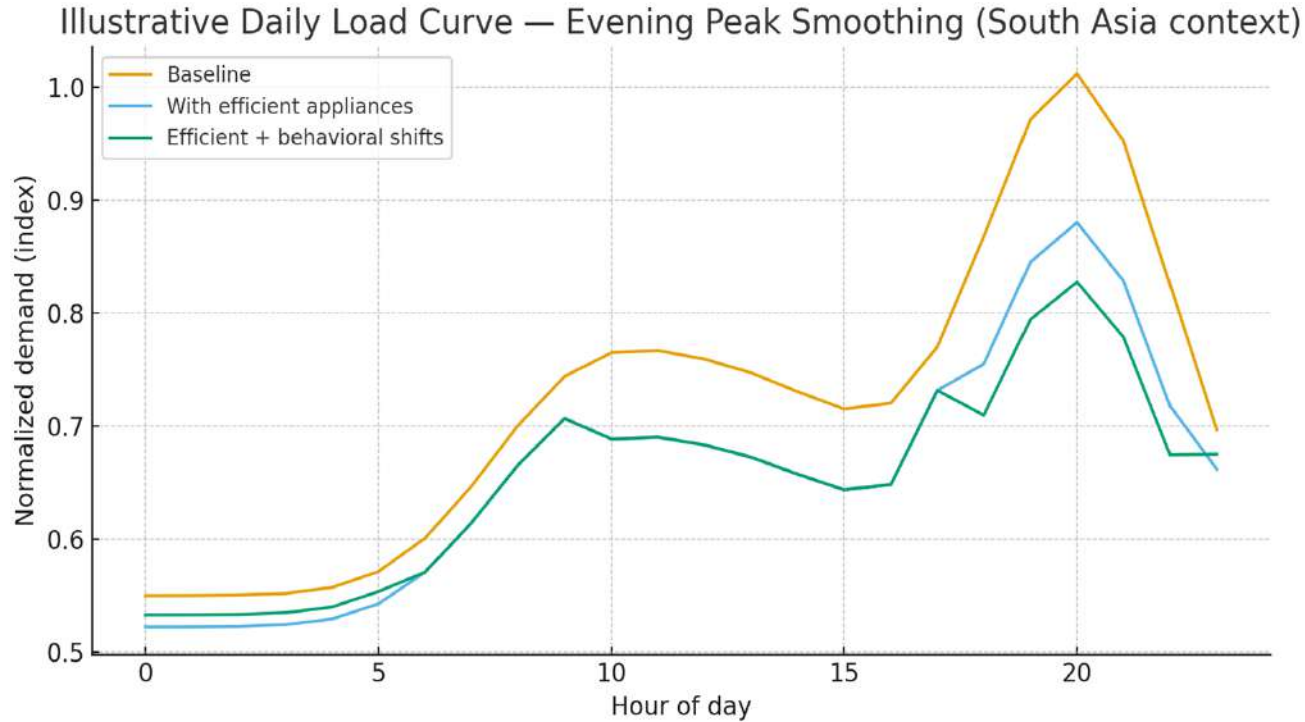
Thermostat Settings: Setting ACs to 24-26°C instead of 18-20°C.

The Role of Technology: Smart appliances and smart meters that can automatically respond to grid signals or time-of-day pricing.



Sources: Concepts of Demand Side Management (DSM).
Pilot studies on Time-of-Day (ToD) tariffs in India (e.g., by SGCI in Gujarat).

Illustrative Daily Load Curve — Evening Peak Smoothing in South Asia context (AI Generated)



The Graph shows how efficient appliances (and then efficient + behavioral shifts like AC 26–27 °C, shifting laundry/water heating off-peak) shave the evening peak and smooth the curve.

How Can Policymakers "Nudge" Behavior?

Financial Incentives:

Subsidies/rebates on high-star appliances (e.g., UAE's *Etihad ESCO* model, discussed in South Asia).

Pay-As-You-Save (PAYS) schemes: The upfront cost is paid back through the energy savings on the bill.

Information & Messaging:

Social proof: "80% of people in your city are buying 4-star or higher ACs."

Clear messaging: "This 5-star AC saves you ₹15,000 per year on your bill."

Regulatory:

Time-of-Day (ToD) tariffs: Making electricity cheaper at night and more expensive during peak hours.

Sources: Thaler & Sunstein's "Nudge" theory.

International Energy Agency (IEA) policy databases.

Examples of Household EEA

Refrigerators: Modern inverter compressors use 40-60% less energy than older models. Key Parameter: Annual Energy Consumption (kWh/year) (ENERGY STAR, 2023).

Heat Pump Dryers: Recycle heat within the drum, using ~50% less energy than conventional vented electric dryers. Parameter: Energy Factor (EF > 3.5) (ENERGY STAR, 2023).

Inverter Split ACs: Adjust compressor speed to maintain temperature, offering significant savings. Parameter: High ISEER Value (> 4.0) (BEE, 2023).

Induction Cooktops: Highly precise and efficient, transferring ~85% of energy to the cookware compared to ~32% for electric coils. Parameter: Cooking Efficiency (%) (DOE, 2023).

Convection Ovens: Use a fan to circulate hot air, cooking food faster and at a lower temperature. Parameter: ~20% reduced energy use per cycle compared to conventional radiant ovens (ENERGY STAR, 2023).

Energy-Efficient Electric Kettles: Feature accurate volume sensors and improved heating elements, boiling water faster and using less electricity. Parameter: Reduced kWh per boil (EC, 2019).

Bangladesh Case Comparison

Aspect	Biomass (Traditional/ICS)	LPG (Gas Cylinder)	Electric Cooking (Induction, EPC, Rice Cooker)
Access & Prevalence	~74% households depend on biomass (MECS 2021); common in rural areas	~22–24% use LPG (urban & peri-urban)	~1% currently use electricity for cooking despite ~99% grid access (MECS/EnDev 2022)
Efficiency	Traditional: ~12–15%; Improved: ~25–35%	~30–40%	~60–90% (EPC, induction, rice cooker)
Cooking Time	Long (fuel prep + slow heating); irregular flame control	Medium (reliable heating, controllable flame)	Fastest (precise temperature, automated appliances)
Monthly Cost (Typical HH)	Cash low if wood collected; BDT 500–800 if purchased	Medium–high: Cylinder refill ~BDT 1,200–1,400/month	Potentially lower: Solar + grid EPC cooking can cost ~BDT 350–600/month (MECS 2021)
Comfort & Health	High smoke, indoor pollution, drudgery for women & children	Cleaner, but cylinder handling & price volatility	Clean, no smoke, safer indoors; dependent on reliable power



Bangladesh



Strategy for Digital Footprint and Community Engagement

Digital Footprint and Community Engagement Approach



Background

High Household
Energy Use and Key
Adoption Barriers

The Critical Role of
Consumer Behavior

Policy Gap and
Impact of Inaction

Insufficient
Incentives and Low
Consumer
Awareness

Technological
Advancement and
Market Penetration
Challenge

Overview of the Strategy

The strategy aims to increase awareness, foster engagement, drive adoption, and sustain retention of high energy efficient E-Cookers through a dual-channel approach, combining digital outreach with community-based engagement.



Key Objectives of the Strategy

Raise awareness of health, environmental, and financial benefits of E-Cookers.

Foster meaningful community interactions and trust.

Drive purchasing decisions and long-term usage.

Leverage community champions for word-of-mouth advocacy

Strategic Framework

Integrated Approach:

The strategy uses both **digital engagement** and **community-centric interventions** to ensure scalable and sustained behavior change.



Phased Implementation Model:

Awareness Phase (SEE):

Spread awareness of E-Cookers through social media, workshops, and demonstrations.

Engagement Phase (THINK):

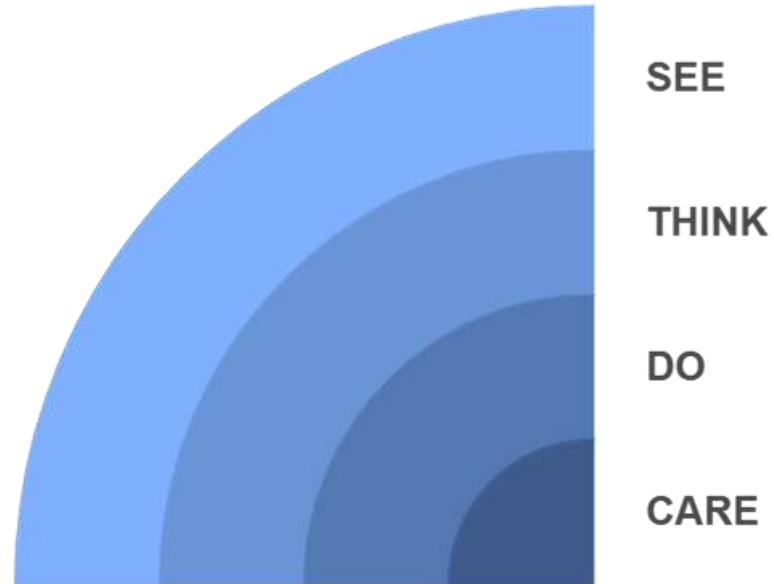
Educate potential users about E-Cooker benefits and usage.

Conversion Phase (DO):

Offer financial incentives and drive purchasing decisions.

Retention Phase (CARE):

Build loyalty and encourage advocacy through support and rewards programs.



Awareness Phase: **Building Visibility**

Digital Platform Activities

- Product Launch Campaign to announce E-Cookers to the market.
- Geo-Targeted Ads on social media to reach key audience segments.
- Engaging Content including infographics, dynamic visuals, and short videos highlighting health, cost-saving, and environmental benefits.

Community Engagement

- Workshops educating participants on cost-saving benefits, health impacts, and product usage.
- Information Booths in high-traffic locations to introduce E-Cookers and their advantages.

Expected Outcome

Potential users become aware of E-Cookers, their benefits, and availability, laying the foundation for deeper engagement in the next phases.

Engagement Phase: Educating and Building Trust

Digital Platform Activities

- Customer Testimonials showcasing real-life experiences and benefits.
- Live Q&A Sessions with influencers and experts to address doubts.
- How-To Videos demonstrating ease of use and efficiency of E-Cookers.

Community Engagement

- Live Demonstrations allowing hands-on experience for potential users.
- Peer Influence Programs featuring early adopters advocating for E-Cookers within their communities.

Expected Outcome

Potential users gain a deeper understanding of E-Cookers and start considering them as a primary cooking solution.

Conversion Phase: Driving Purchase Decisions

Digital Platform Activities

- Promotional Offers & Trade-In Programs to lower financial barriers.
- Financing Ads highlighting installment plans and affordability.
- Website/Landing Pages with Clear Calls-to-Action directing users to purchase options.

Community Engagement

- On-Spot Financing Information at community events.
- Cooking Experience Days with hands-on trials to boost confidence.
- Retailer Engagement to facilitate point-of-sale promotions and direct purchases.

Expected Outcome

Potential users convert into active adopters of E-Cookers, increasing market penetration.

Retention Phase : Sustaining Usage & Advocacy

Digital Platform Activities

- Loyalty Programs rewarding long-term users.
- Referral Campaigns encouraging users to bring in new adopters.
- Bi-Weekly SMS & Social Media Updates featuring tips, recipes, and maintenance advice.

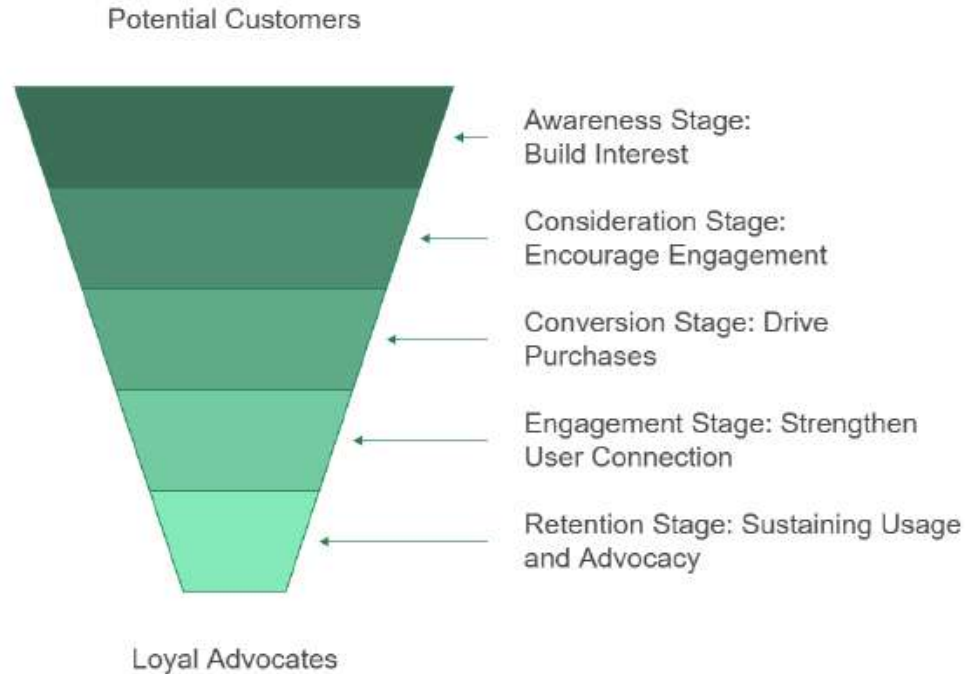
Community Engagement

- Peer Networks providing ongoing support and troubleshooting
- Customer Service Hotlines to assist users with queries and technical issues
- User Feedback Surveys gathering insights to improve user experience..

Expected Outcome

Users continue using E-Cookers, share positive experiences, and become clean cooking advocates in their communities.

Customer Journey Analysis



Summary of Recommendations:

Digital Engagement

Implement a phased "See, Think, Do, Care" communication strategy.

Leverage Facebook, YouTube, and SMS for video tutorials, testimonials, and financing ads.

Develop interactive website (landing pages) with cost-saving calculators and retailer locators.



Summary of Recommendations:

Community Engagement

Organize workshops, live demonstrations, and cooking experience days for hands-on exposure.

Train early adopters as community champions to promote peer influence.

Set up information booths to provide direct access to financing options and product details.



Summary of Recommendations:

Integration of Digital & Community Efforts

Live stream community events on social media for broader reach.

Digitally share grassroots success stories to build credibility.

Gather feedback from community interactions to refine messaging and strategy.





Case Study- Clean Cooking Scale Up (CCSU) Bangladesh

Electric Cooking Markets Study at a Glance

- High Awareness, Low Adoption:
- Significant Health Concern
- Market Dominance of Traditional Fuels
- Substantial Carbon Financing Potential
- Critical Need for Policy & Financing

RBC Assessment at a glance

- Dual Focus on Impact & Ethics
- Formalized Organizational Policies
- Informal Value Chain Practices
- Significant Gender Disparities
- Key Recommendations for Enhancement



Project **Target**

51,000



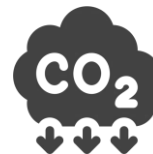
To promote the sales and utilization of
51,000 eCook stove in Bangladesh

2,000



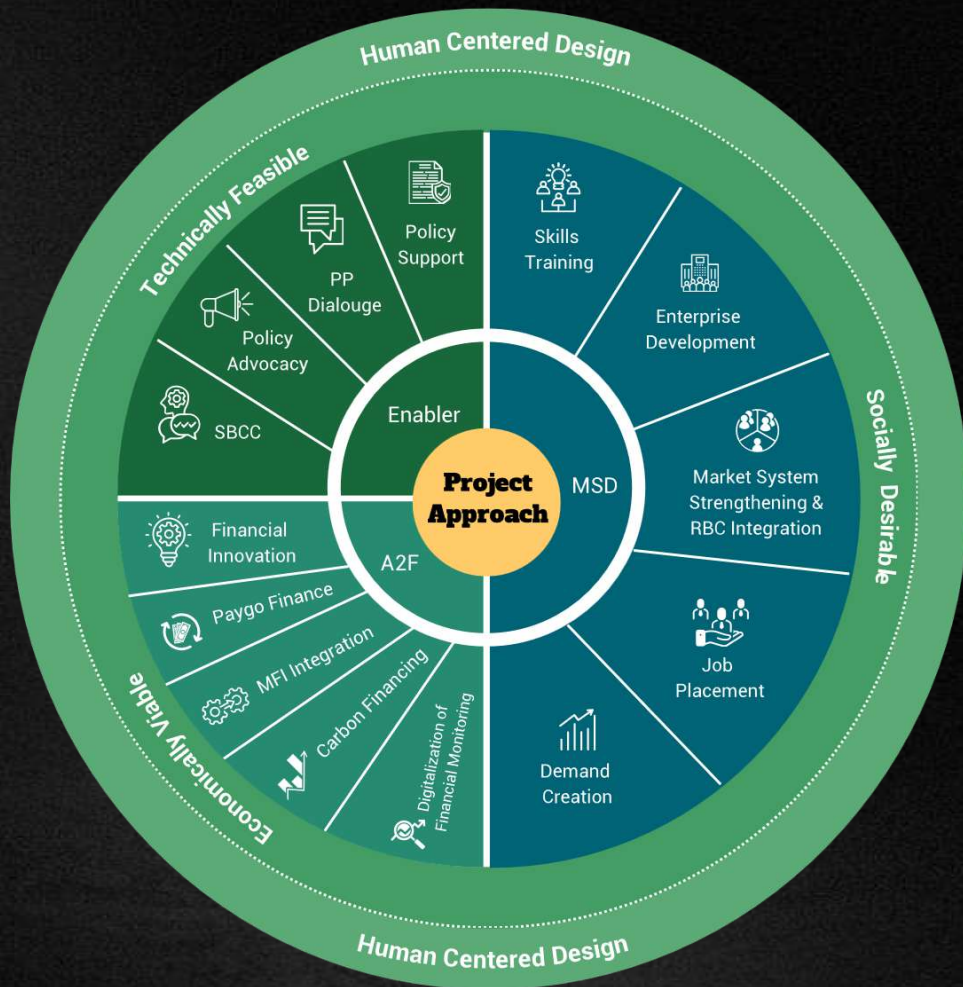
Employment of 500 youths and
increased incomes of 1,500 individuals

100,000



Ton of CO₂-equivalent
GHG emission reduction per year

Key Project Activities & Approach



CCSU successfully innovated PBP, P2E, Green Incentives (supply side), C2E (Demand side) model

PBP (Promotional-Based Payment):

- Incentivized BDT 300/- per agents for sales-driven targets: 6 promotions along with one successful sales record.

P2E (Promotion to Earn):

- Focus on paid for awareness activities. Increased reach and engagement, better for long-term behavior change. Each sales agent got BDT 15 per promotion.





Green Incentives (Supply Side):

Dealers and retailers received BDT 400/- as a green incentive for successful end sales data. It boosted supply chain motivation and expanded distribution networks effectively.

C2E (Cook-to-Earn):

Users earned carbon credits based on usage. Directly incentivized adoption and sustained use of clean stoves.





A2F MFI model

Affordable Financing Options: Provide electric cookstoves to marginalized households through easy installment plans, with small down payments and manageable weekly installments, ensuring financial accessibility.

Local Partnerships: Collaborate with community-based NGOs and microfinance institutions to facilitate financing and support customers in purchasing electric cookstoves.

Demand-Driven Approach: Raise awareness through door-to-door demonstrations, generate local demand, and convert interest into sales supported by accessible financing, promoting sustainable adoption of clean cooking solutions.

Clean Cooking Scale Up (CCSU) Bangladesh Project

"ধোঁয়ামুক্ত গ্রাম"

উদ্যোগের উদ্বোধন অনুষ্ঠান

An initiative towards "Smoke-free Village" for Safe and healthy kitchens

প্রধান অতিথি: মো: নিজাতুল রহমান, উপজেলা নির্বাহী অফিসার, বদরগঞ্জ, রংপুর। বিশেষ অতিথি: মোঃ আরিফুর রহমান তালুকদার, প্রকল্প ব্যবস্থাপক, আইডিই, বাংলাদেশ
সভাপতিত্ব: মোঃ জাবির হোসাইন, প্রধান শিক্ষক। সহযোগিতায়: আশার আলো ফাউন্ডেশন



চিরায়তবাড়া উচ্চ বিদ্যালয় সার্কেল, বদরগঞ্জ, রংপুর

জানুয়ারি ১৯, ২০২৫



MINISTRY OF EDUCATION
GOVERNMENT OF BANGLADESH

DGBP

DANIDA CROWN
BUSINESS
PARTNERSHIPS

IDE

Powering
entrepreneurs
to end poverty

ATEC



Smoke Free Village



Group Sales



School Campaign



Roadshow Miking



Digital Campaign



Result:

274% sales increase in 2025

9.5M promotional reach

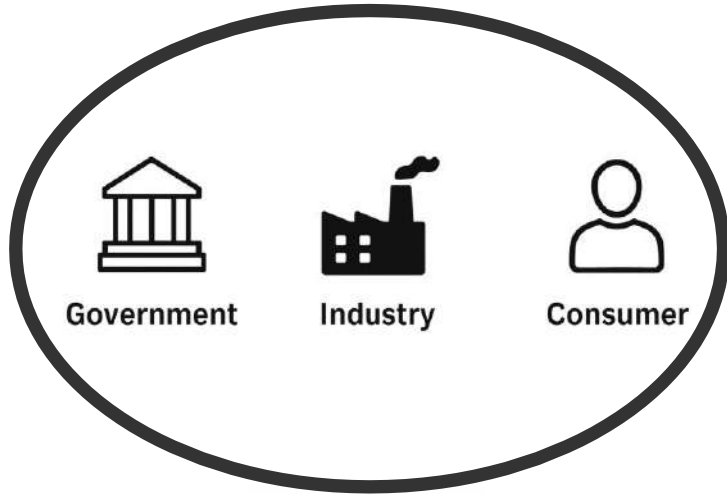
983 people trained and employed

81k potential registered customer

10k tones CHG emission reduce

101 100% clean cook aware village

The Way Forward: A Multi-Stakeholder Approach



For Governments:

- Strengthen MEPS and make labeling mandatory for more appliances.
- Design innovative financing to lower upfront cost (e.g., tie subsidies to star ratings).
- Pilot and scale Time-of-Day tariffs.

For Manufacturers & Retailers:

- Promote life-cycle cost, not just sticker price.
- Train sales staff to explain the BEE label.

For Consumers:

- Calculate total cost of ownership. Always look for the label!
- Adopt load-shifting habits.

Key Takeaways

- Energy efficiency is critical for managing South Asia's growing energy demand and peak load crisis.
- Adoption is hindered by high upfront costs, low awareness, and behavioral biases.
- Government Standards & Labeling programs (like India's BEE) are essential and effective, but need strengthening.
- Consumer behavior *after* purchase (load-shifting) is as important as the purchase decision for grid health.
- A combination of strong policy, financial innovation, and behavioral nudges is required to accelerate adoption.



Powering entrepreneurs
to end poverty.

Email: atalukder093@gmail.com



Q & A
Session!