BEHAVIOR PROFILE: ENERGY CONSUMERS USE ELECTRICITY SERVICES

ECONOMIC GROWTH GOAL

Catalyze growth of the country's Domestic Productive Resources to create economic opportunity for all

BEHAVIOR

Small, on-grid energy consumers energy consumers use reliable and affordable electricity services

Average consumption of electricity by key customer classes (residential, commercial/industrial, agricultural and street lighting , etc.)

BEHAVIOR ANALYSIS

BEHAVIOR AND STEPS

What steps are needed to practice this behavior?

Behavior

Small, on-grid energy consumers use reliable and affordable electricity services

Steps

1. Assess options and costs for interconnection to national electricity grid or captive power
2. Comply with utility credit review, interconnection, and demand survey requirements to sign up for electricity services
3. Explore technical, quality, and cost options to meet existing or new electricity demand through energy efficiency

FACTORS

What factors may prevent or support practice of this behavior?

STRUCTURAL

Accessibility: Small, on-grid energy consumerscannot afford electricity services because operational inefficiencies drive up cost of service.

Service Provider Competencies: Small, on-grid energy consumers cannot access reliable energy because technical and commercial losses in distribution utilities make entire value chain insolvent.

Service Provider Competencies: Small, on-grid energy consumers cannot access reliable energy because utilities (including grid operator) have insufficient skilled workforce to deploy emerging technologies.

Service Experience: Small, on-grid energy consumers cannot access energy because they face difficulties in normalizing their metering, billing and payment.

SOCIAL

Norms: Small, on-grid energy consumers do not pay for reliable services because they have inconsistent culture of payment.

INTERNAL

Skills: Small, on-grid energy consumers does not use affordable services because they are not able to achieve least-cost solution for electricity access.

Skills: Small, on-grid energy consumers do not use electricity services because they cannot effectively advocate for measures to increase quality of service (cost, reliability, and quality).

Skills: Small, on-grid energy consumers do not use electricity services because they cannot deploy bankable solutions for their own supply.

SUPPORTING ACTORS AND ACTIONS

Who must support the practice of this behavior, and what actions must they take?

INSTITUTIONAL

Policymakers: Design and incentivize measures to unlock and utilize least-cost energy resources.

Electricity Distribution Utilities: Power distribution utilities implement strategies to reduce technical and commercial losses in the distribution of electricity.

Energy and Electricity sector regulators: Provide pricing and regulatory incentives to drive efficiencies in the generation, transmission, and distribution of electricity.

Energy Efficiency Value Chain Actors: Deploy energy efficiency to bring down consumption of large non-paying power consumers or to enable productive energy uses in off-grid areas.

Electricity Distribution Utilities: Provide access to modern energy services with performance guarantees and in a manner that is consistent with the capacity to pay of households and producers.

Financial Institutions: Offer consumer credit, micro-leasing for end users and working capital and asset financing for service providers.

Civil Society: Advocate for efficient procurement and best practices in the sector to promote affordable electricity services.

Distributed Energy Systems Providers: Design and install rooftop solar and other distributed energy resources for all customer classes.

Civil Society : Support efforts to reduce commercial losses and increase quality of service in electricity distribution to strengthen utility costs and reliability.

Power System Operator (also wholesale market operator) : Ensure stability of electricity system while deploying country's domestic energy resources and other technical solutions to reduce the cost of electricity.

STRATEGY

POSSIBLE PROGRAM STRATEGIES

What strategies will best focus our efforts based on this analysis?

Strategy requires Communication Support

ENABLING ENVIRONMENT

Institutional Capacity Building: Build capacity of sector agencies (utilities and regulators) to update least cost plan to meet electricity demand.

Institutional Capacity Building: Implement capacity building programs that to enhance knowledge and skills of utilities to adopt and utilize advanced systems to deploy emerging technologies.

Institutional Capacity Building: Build competitive procurement strategy, capacity, and champions for deployment of new energy solutions based on least cost-pathway.

Institutional Capacity Building: Build capacity of system operator and energy service providers to strengthen grid stability services to enable Ghana to scale its domestic renewable energy resources.

Partnerships and Networks: Support creation of consumer advocacy champions in civil society using Information, Communications, Technology (ICT) innovations to maximize reach.

Policies and Governance: Introduce incentives/mechanisms that encourages large electricity consumers to increase dependence on grid network rather than invest in captive generation.

Policies and Governance: Analyze, design, and implement tariff re-balancing strategies to reduce cross-subsidy burden on commercial and industrial consumers.

SYSTEMS, PRODUCTS AND SERVICES

Products and Technology: Energy efficiency demonstration investments by energy service companies and Ministry of Finance targeting reduction of ongoing subsidies to large public sector consumers.

DEMAND AND USE

Communication: Implement performance guarantee measures and strategies to incentivize consumers to pay bills.

Collective Engagement: Design and implement commercial loss reduction strategies, with community engagement strategy.