



MARKET STRATEGIES UNDER ENERGY AS A SERVICE (EAAS)

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- SAARC Energy Centre (SEC) promotes regional cooperation through knowledge sharing, capacity building, and policy dialogue in the energy sector.
- SEC is organising a webinar on “**Market Strategies under Energy as a Service (EaaS)**” to share insights on innovative energy business models and financing mechanisms across South Asia.
- This presentation would cover EaaS market models, implementation experiences, challenges, opportunities, and strategies for scaling EaaS adoption in the SAARC region.
- **Key focus areas:**
 - Global and regional EaaS business models
 - Applications in renewable energy, storage, energy efficiency, EV charging, and microgrids
 - Market, regulatory, and financing challenges
 - Enabling policy and regulatory frameworks
 - International best practices and lessons learned

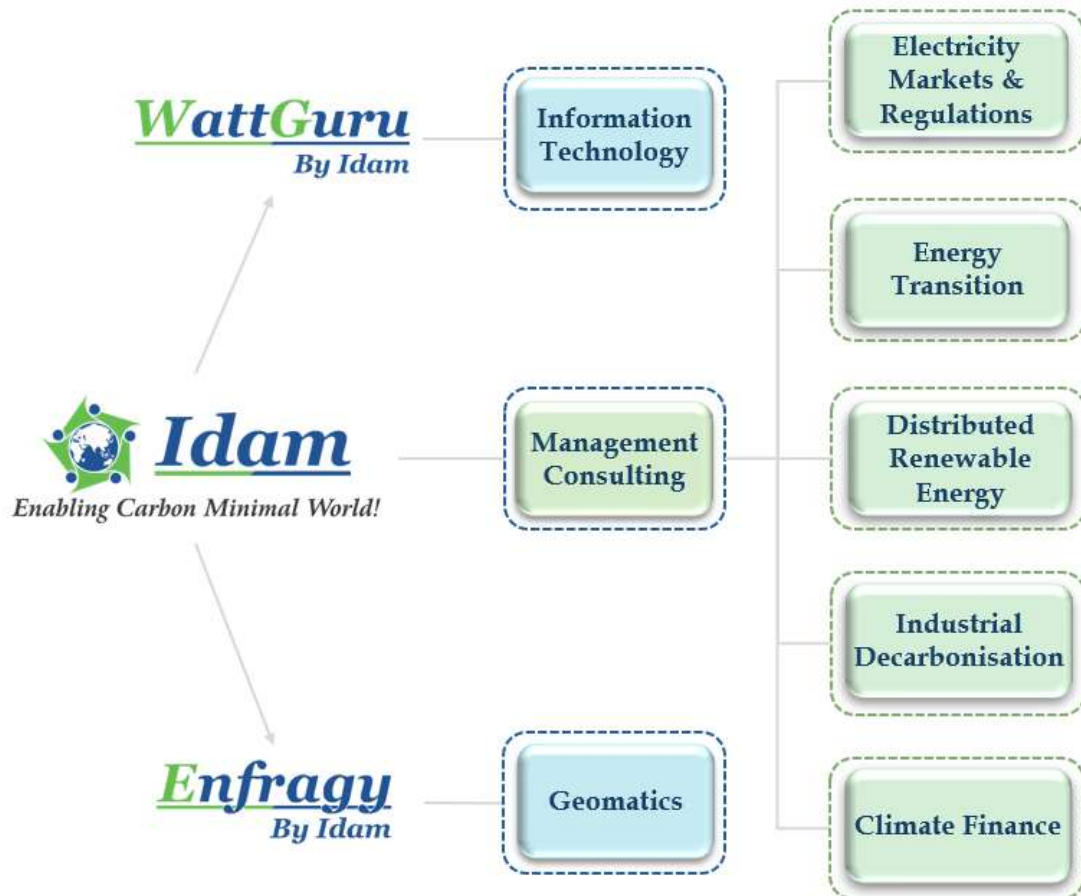
About



इदम् - 'This' 'This Earth at This Time'

The word '**Idam**' in Sanskrit means '**This**' and is used as a pronoun to refer to earth and/or time as 'This Earth' or 'This Time'. We interpret it as 'This Earth at This Time' or 'Firmly Grounded'. Of course, that does not mean we are immobile, but it means that we are "Realistic". We believe this represents our corporate ethos. Our logo has Earth at the center, surrounded by five basic elements or 'Panchmahabhutas' according to Hindu Literature, i.e., air, fire, water, earth, and space. The fins represent continuous churning around the earth ensuring that the earth is always stable.

Business Verticals





Integrity

We are honest, transparent, ethical, consistent and fair in dealing with all stakeholders.

Empowerment

We are committed to employee development.

Sustainability

We firmly believe in protecting environment and sustainable living

Purpose

Enable carbon minimal world through our products and services in energy domain.



Core Values

Mission - 2027

- Among top 3 Indian firms providing similar services.
- Geographical presence in 3 continents.
- 25% revenue from international work.

Quality

We are dedicated to quality; quality of every output; be it a product or a service.

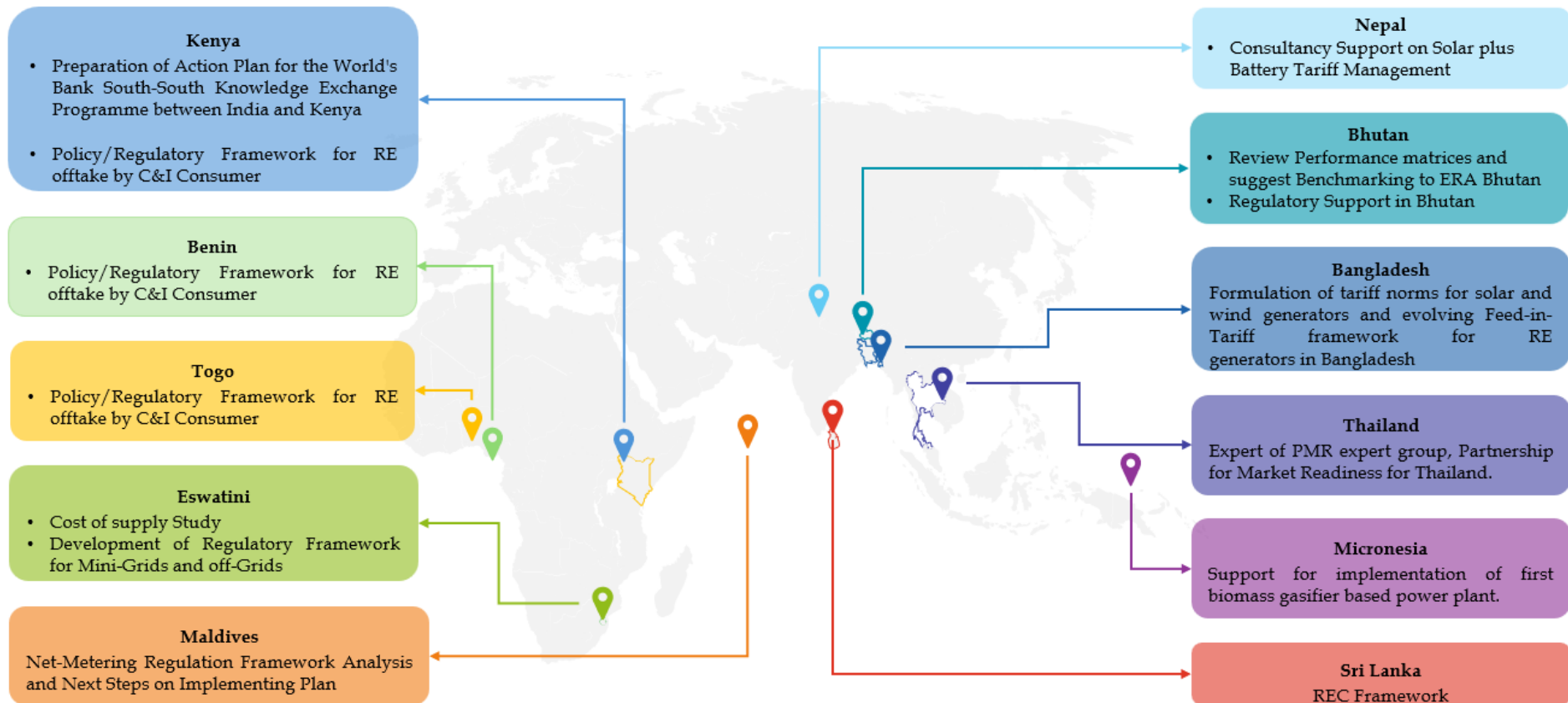
Compassion

We expect profit but not at the cost of core values

Innovation

Continuous improvement/ innovations is at the core of our actions

Idam Infra's International Engagements





Balawant Joshi

MANAGING DIRECTOR



Ajit Pandit

FOUNDING DIRECTOR
AND CEO



Rajiv Shukla

EXECUTIVE DIRECTOR
DISTRICTED
RENEWABLE ENERGY



Anand Dhavale

EXECUTIVE DIRECTOR
ELECTRICITY MARKETS
AND REGULATIONS



Rajsekhar B

EXECUTIVE DIRECTOR
ENERGY TRANSITION

Shekhar Gaur

ASSOCIATE DIRECTOR
BUSINESS
DEVELOPMENT



Mahasweta Mitra

GENERAL MANAGER
CLIMATE FINANCE

Harshad Juvekar

GENERAL MANAGER
WATTGURU



Subhabrata Datta

GENERAL MANAGER
ENERGY

GOVERNMENT SECTOR



FUNDING AGENCIES



PUBLIC SECTOR/ INSTITUTE



PRIVATE SECTOR

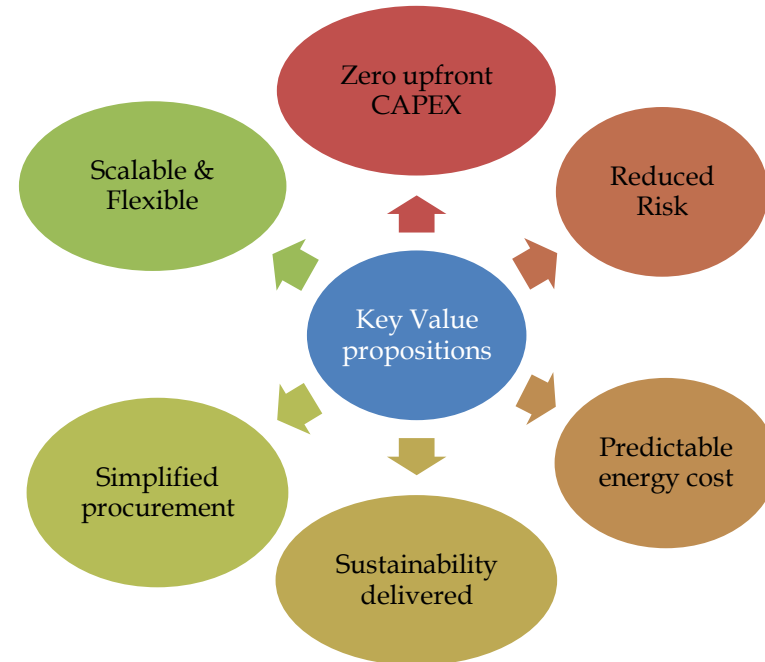
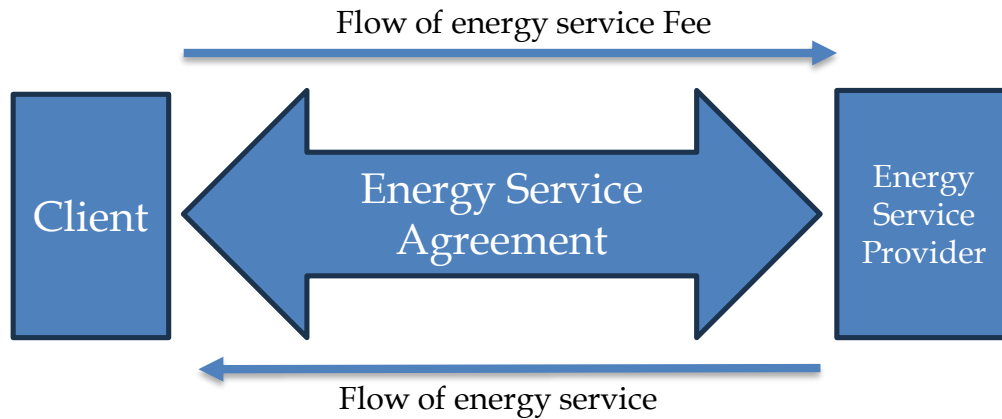


EaaS – Key Concepts

Energy as a Service

- Energy as a Service (EaaS)** is a service-based model in which a third-party entity finances, owns, operates, and maintains energy assets to deliver end-to-end energy solutions and outcomes such as reliable power, cooling, heating, EV charging, and energy savings allowing customers to access these services without upfront investment and is paid on the basis of basis of performance or outcomes.

EaaS Workflow diagram :



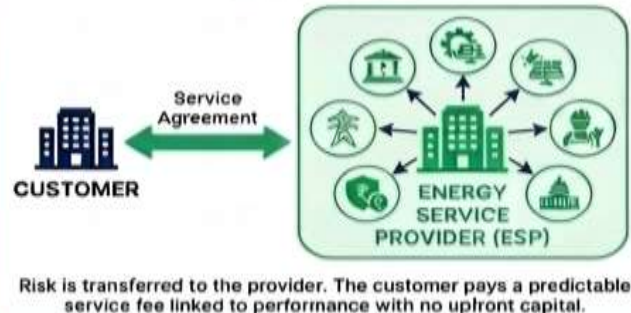
Traditional Model vs EaaS Model

Architecture Diagram

TRADITIONAL MODEL



EaaS MODEL



Comparison Table

	TRADITIONAL INVESTMENT	EaaS MODEL
FINANCIAL STRATEGY	High upfront CAPEX; Customer-owned assets & financing.	Zero/Low upfront CAPEX; Pay-as-you-use outcome-based payments.
RISK & OPERATIONS	Customer manages O&M, bears technology upgrade costs, and absorbs all performance risk.	Provider handles continuous O&M, assumes upgrade responsibilities, and absorbs performance risk.
BUSINESS FOCUS	Multiple vendor contracts; management distracted by energy asset operations.	Single end-to-end agreement; highly scalable; customer focuses purely on core business.

Limitation of EaaS

VENDOR LOCK-IN:
Long-term contractual performance and high switching costs.

PROVIDER DEPENDENCY:
Total reliance on ESP and continuous monitoring.

LOSS OF CONTROL:
Limited direct asset ownership or operational control.

CREDIT HURDLES:
Strict customer creditworthiness requirements to secure financing.

REGULATORY SHIFTS:
Exposure to ongoing policy uncertainty.

EaaS Workflow

STRATEGY & STRUCTURING

- 1 Assess & Audit**
Analyse energy demand, assets, and baseline performance to identify EaaS opportunities.
- 2 Service Design**
Design integrated solution with defined technologies, KPIs, and expected service outcomes.
- 3 Structuring, Financing & Contract**
Structure business model, financing, contracts, and risk-sharing framework.

IMPLEMENTATION

- 4 Build & Install**
Deploy and integrate energy assets (hardware + software) into existing systems.

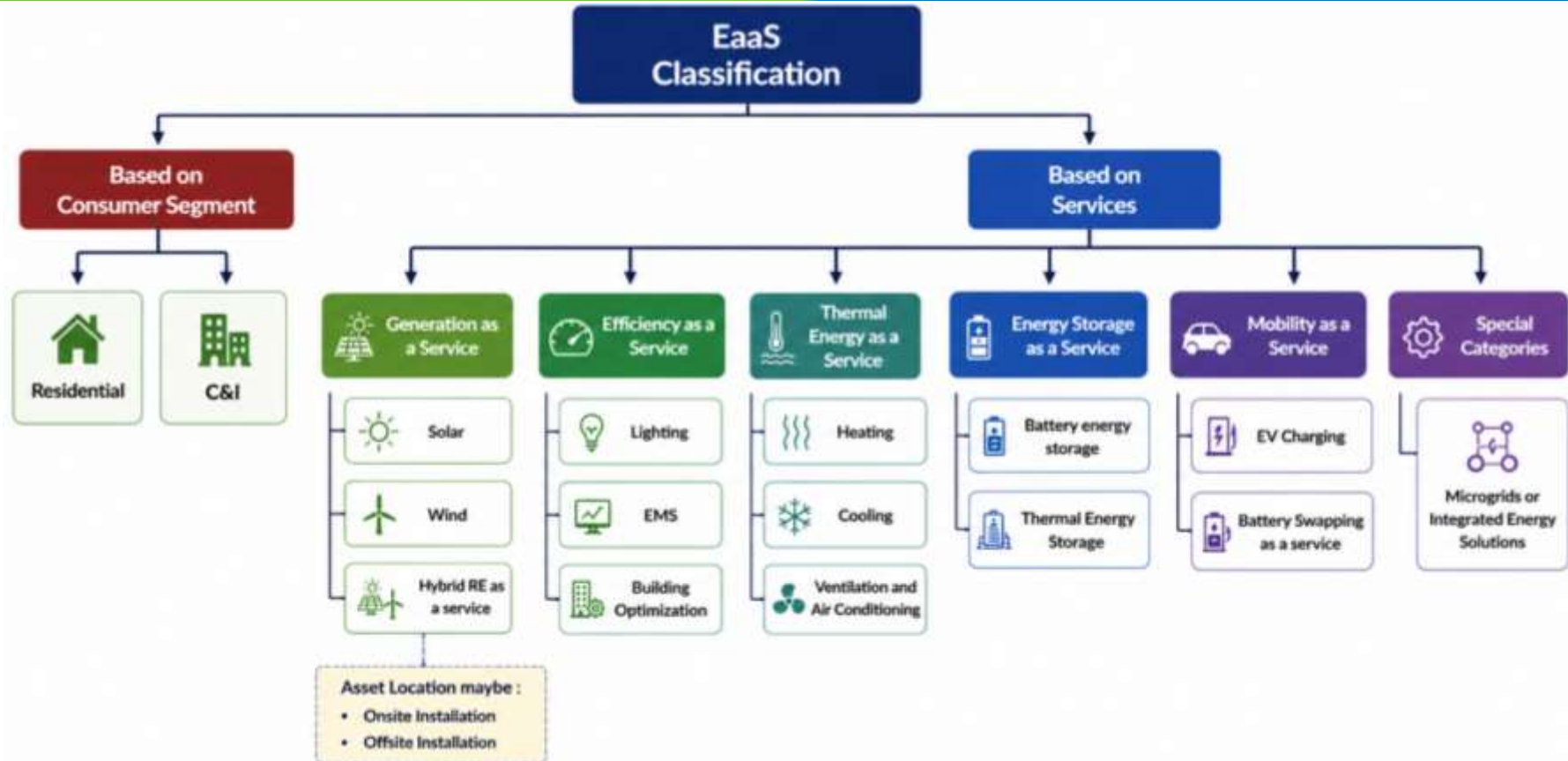
PERFORMANCE & OUTCOME

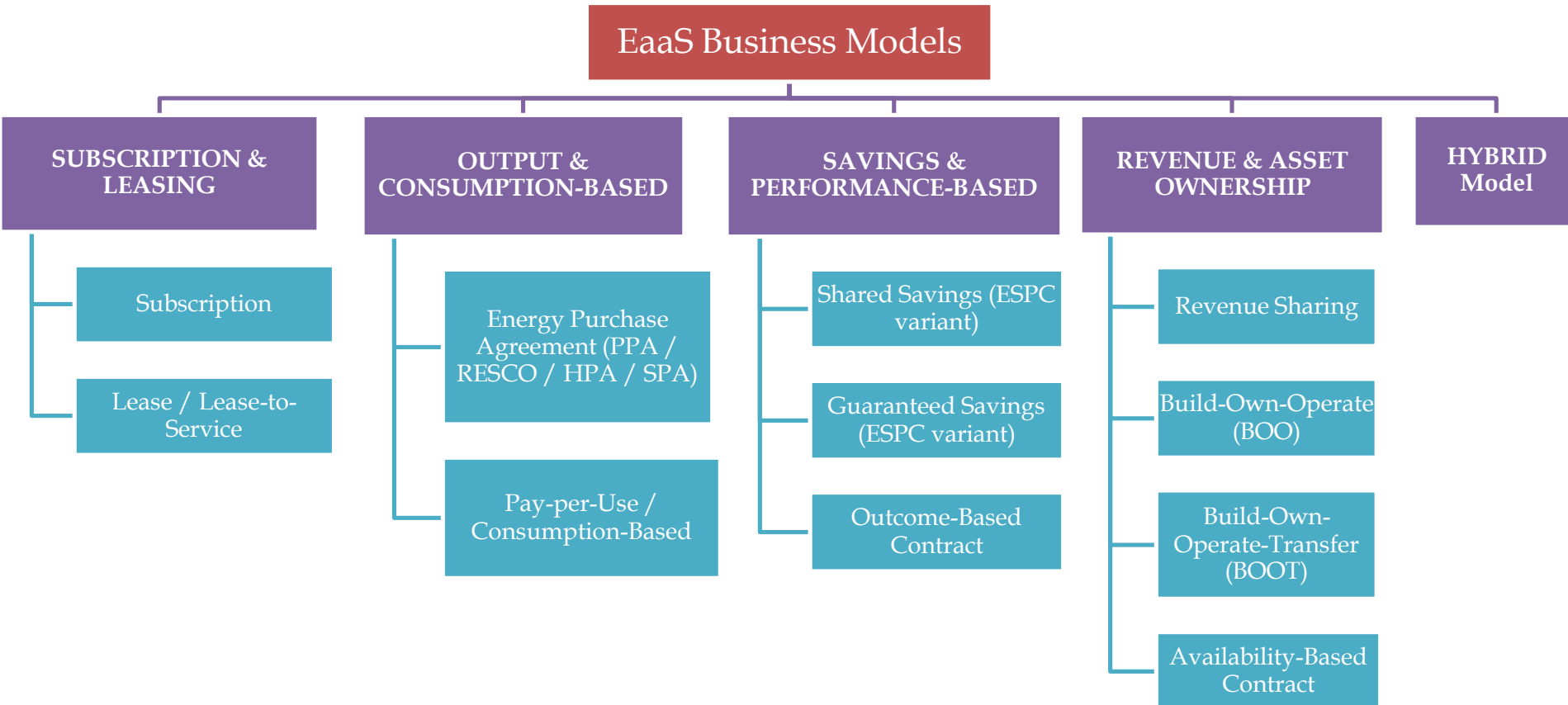
- 5 Operate, Maintain & Optimise**
Run and continuously optimize assets to ensure performance and efficiency.
- 6 Measure, Verify & Settle**
Track verified outcomes and settle payments based on actual delivered performance.

Key Stakeholders & Roles

	Customer	Purchases energy outcomes
	Energy Service Provider (ESP)	Integrates ownership, financing, technology & operations
	Banks / NBFCs	Fund project investments
	Technology & EPC Partners	Design, supply & deploy solutions
	Regulators	Define market rules & compliance
	M&V Agencies	Verify performance & savings

EaaS Classification





Business models – Comparative Analysis (1/3)

Category	Business Model	How Provider Gets Paid	Customer Pays For	Primary Service & Example
SUBSCRIPTION & LEASING	Subscription	Fixed fee access	Fixed monthly / annual fee regardless of usage	Mobility as a Service: Fixed monthly fee for EV battery swapping access.
	Lease / Lease-to-Service	Asset rental	Fixed lease rental + optional service fee	Energy Storage as a Service: Fixed monthly rental for an on-site commercial battery asset with O&M.
OUTPUT & CONSUMPTION-BASED	Energy Purchase Agreement (PPA / RESCO / HPA / SPA)	Per unit of energy delivered (₹/kWh, ₹/TRh, ₹/ton steam)	Only the energy actually delivered – nothing if output is zero	Generation as a Service: Paying a fixed ₹/kWh rate only for the solar energy generated by a rooftop system.
	Pay-per-Use / Consumption-Based	Metered billing	Based on actual service consumed / output used	Thermal Energy as a Service: Paying a provider per TRh (Ton-Hour) of chilled water consumed.

Business models – Comparative Analysis (2/3)

Category	Business Model	How Provider Gets Paid	Customer Pays For	Primary Service & Example
REVENUE & ASSET OWNERSHIP	Revenue Sharing	Share of market revenues (grid services, VPP, tariff savings)	Share of revenues only when the asset performs in market	Flexibility as a Service (VPP): Provider aggregates behind-the-meter batteries for grid ancillary services and splits the market revenues with the asset owner.
	Build-Own-Operate (BOO)	Ongoing service / energy payments over contract life	Energy or service output – never the asset itself	Generation as a Service: Off-site wind microgrid supplying green power to a client over a 20-year term while the provider retains ownership.
	Build-Own-Operate-Transfer (BOOT)	Service payments during contract; asset transferred at end	Service during contract term; receives asset at end	Thermal Energy as a Service: Provider installs and operates a complex industrial boiler system, transferring ownership to the client at the end of the term.
	Availability-Based Contract	Fixed payment tied to asset uptime / availability	Guaranteed availability – deductions apply if asset is down	Mobility as a Service: EV fleet charging hub operator paid based on maintaining 24/7 equipment uptime and availability.

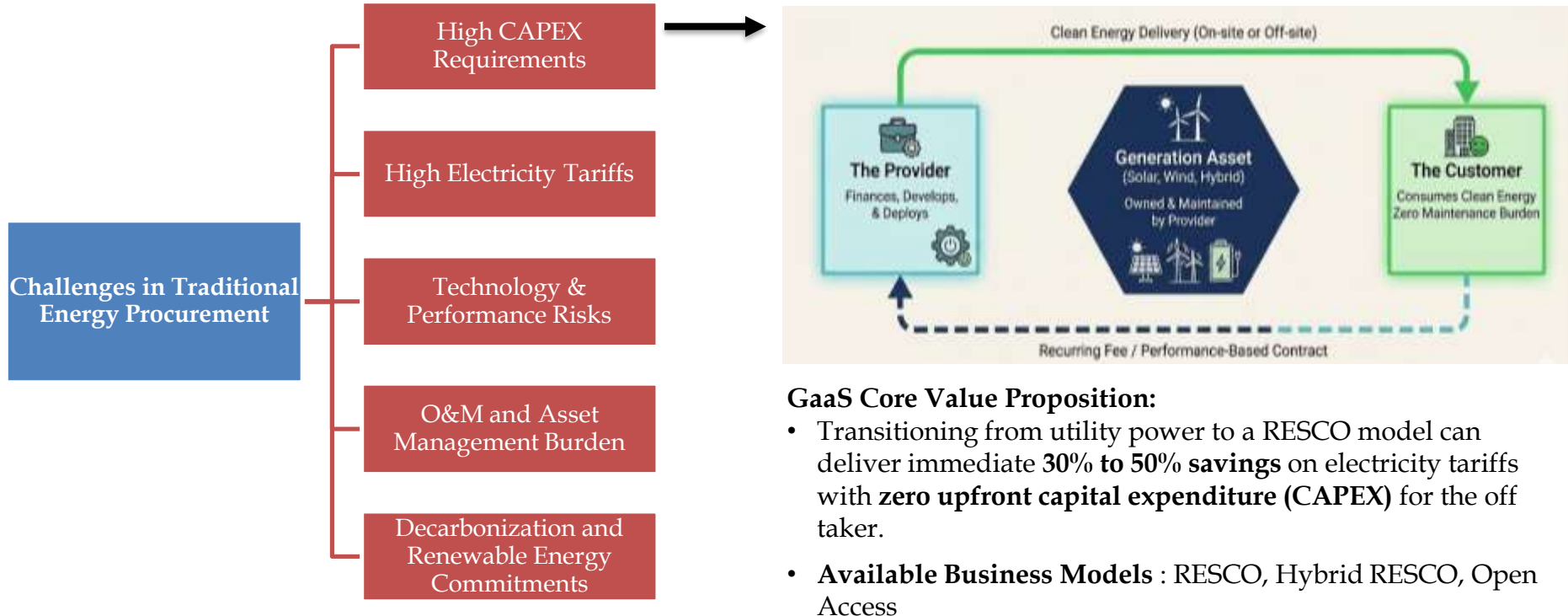
Business models – Comparative Analysis (3/3)

Category	Business Model	How Provider Gets Paid	Customer Pays For	Primary Service & Example
SAVINGS & PERFORMANCE - BASED	Shared Savings (ESPC variant)	% of verified energy savings achieved	A share of savings – pays nothing if savings do not materialise	Efficiency as a Service: Provider upgrades HVAC and receives a percentage of the verified monthly utility bill savings.
	Guaranteed Savings (ESPC variant)	Fixed service fee; shortfall made good by provider	Fixed fee – provider compensates if savings fall below guarantee	Efficiency as a Service: Provider retrofits LED lighting and guarantees a specific savings level, making good any shortfall.
	Outcome-Based Contract	KPI-linked payment	Defined outcomes (emissions, uptime, savings) – not inputs	Special Categories (Microgrids): Industrial microgrid contract tied strictly to achieving defined outcomes like 99.99% uptime or carbon targets.
HYBRID	Hybrid Model	Blended structure (fixed infrastructure fee + variable share of savings or revenues)	Base access fee plus upside participation	Efficiency as a Service: Smart building optimization combining a base infrastructure/access fee with a variable bonus for extra energy savings achieved.

EaaS – Key Business Models

Generation as a service (GaaS)

GaaS - Business model where a third-party provider installs, owns, operates, and maintains a solar PV, wind or hybrid system, allowing customers to access solar electricity without upfront investment or asset ownership.



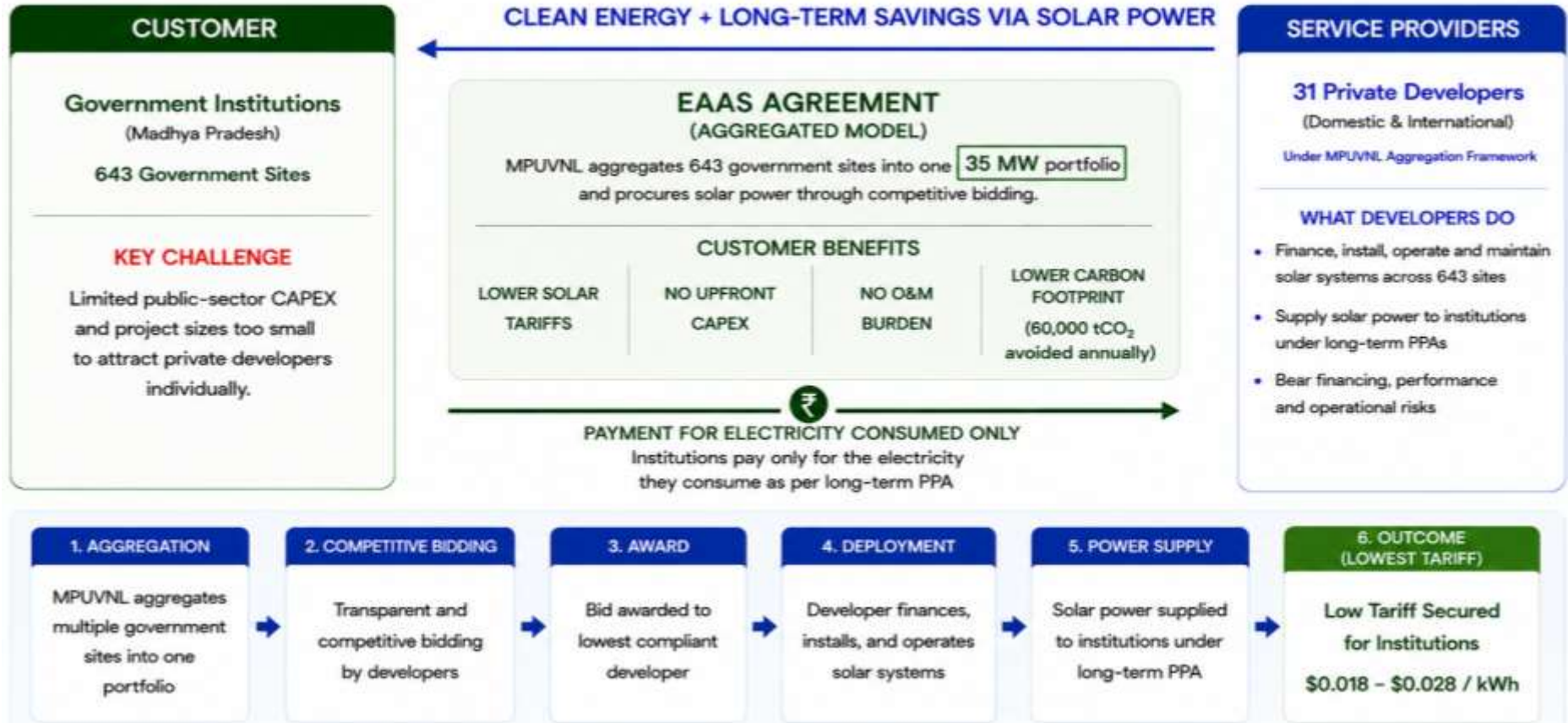
Revenue sharing models under GaaS

Strategy	Revenue / Profit Sharing Mechanism	Provider (Developer) Perspective	Customer (Host) Perspective
Fixed Tariff (PPA)	Fixed ₹/kWh tariff over a 15–25-year contract.	Stable revenue: Predictable long-term cash flows; bears generation, O&M, and performance risks.	Cost certainty: Zero upfront CAPEX and predictable energy costs; limited flexibility if market tariffs decline.
Fixed Discount to Utility Tariff	Customer pays a fixed discount (e.g., 20%) below the prevailing utility tariff.	Inflation hedge: Revenue increases with utility tariff escalation but declines if tariffs fall.	Guaranteed savings: Always pays below grid tariff; actual savings depend on future tariff revisions.
Shared Savings (ESCO)	Verified energy cost savings are shared based on an agreed ratio (e.g., 70:30).	Performance-driven returns: Higher earnings when greater savings are achieved; revenue depends on verified performance.	No upfront investment: Payments are linked to realized savings; requires robust Measurement & Verification (M&V).
Export Revenue Sharing	Revenue or bill credits from surplus electricity exports are shared between the parties.	Additional revenue: Monetizes surplus generation; dependent on generation and regulatory policies.	Additional income: Maximizes value from surplus energy or unused assets; returns depend on net-metering regulations.
Hybrid Model	Fixed service fee combined with a variable share of savings or energy sales.	Balanced cash flow: Stable base revenue with upside from performance incentives.	Balanced cost: Predictable base payment with shared performance benefits; requires more complex contractual arrangements.

MPUVNL Case Study (GaaS + Demand Aggregation)



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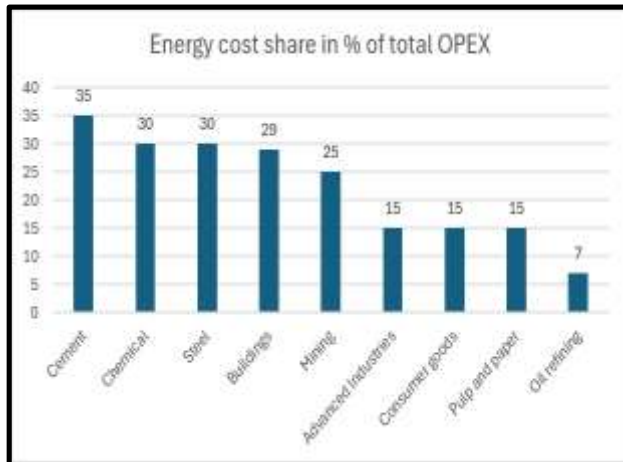


Energy Efficiency as a service

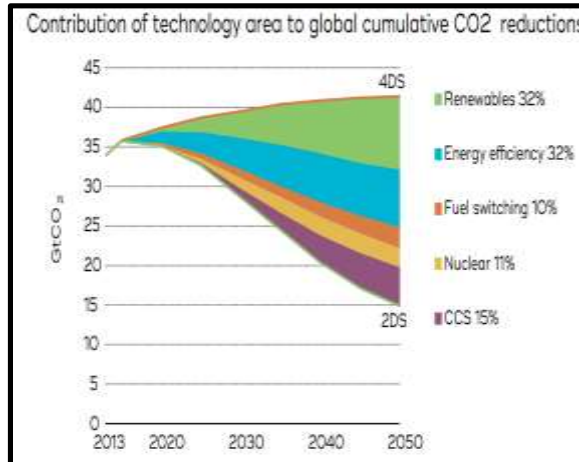
Energy Efficiency as a Service (EEaaS) is a model where a third-party provider finances, installs, and manages energy efficiency solutions, while the customer pays through service fees or realized savings

Key Drivers for EaaS:

Energy cost share of total OPEX - (10-40%)

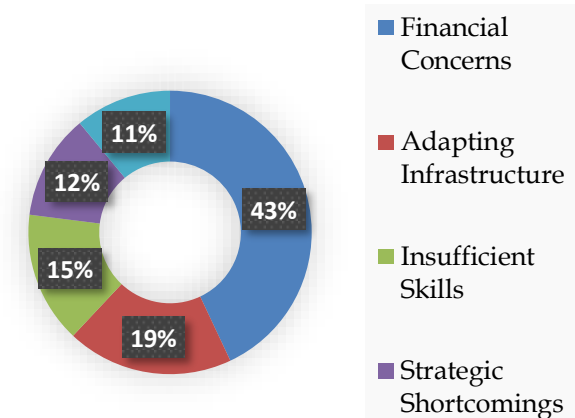


EE's Emission Reduction Potential



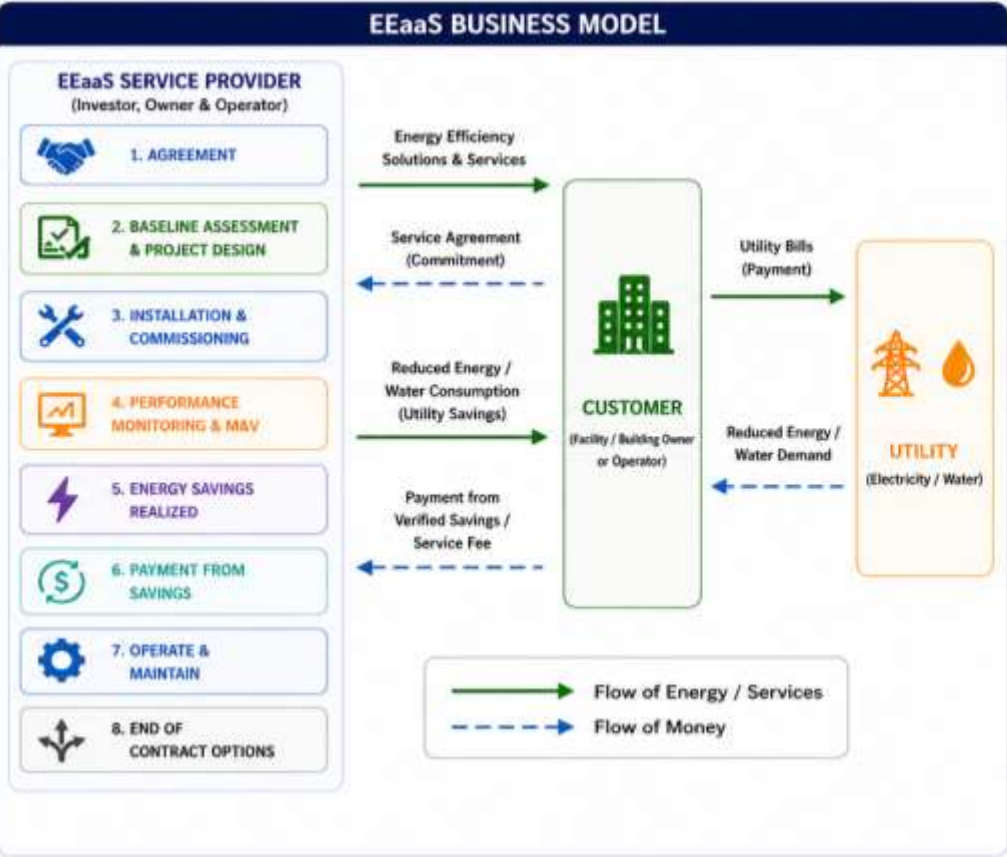
Challenges faced by the clients for EE upgrades

Barriers Share (%)



https://www.energyefficiencymovement.com/efficiency-now/pdf/EEM_Barriers_Report_2025-05-15.pdf

EEaaS Business Model & Use Cases



EEaaS USE CASES ACROSS SAARC	
USE CASE	EXAMPLES – NATIONAL PROGRAMMES & OTHER EEaaS PROJECTS
Street Lighting	- Street Lighting National Programme (India) - Municipal LED Street Lighting Retrofits (Performance Contract, Sri Lanka)
Government Buildings	- Building Energy Efficiency Programme (India) - SREDA ESCO Programme (Bangladesh) - Government Building Energy Retrofit Projects (Performance Contract, Sri Lanka) - Public Building Energy Efficiency Projects (ESCO, Pakistan)
Commercial Buildings	- SLSEA ESCO Programme (Sri Lanka) - Commercial Building HVAC & Lighting Retrofits (Guaranteed Savings, Sri Lanka) - Commercial Building Demonstration Projects (ESCO, Nepal)
Hotels & Tourism	- Hotel Energy Retrofit Projects (Guaranteed Energy Performance Contract, Sri Lanka) - Resort Energy Management Projects (Energy Performance Contract, Maldives)
Industrial Energy Efficiency	- PAT-linked ESCO Projects (India) - Textile Energy Retrofit Projects (Shared Savings, Bangladesh) - Industrial Energy Efficiency Demonstration Projects (ESCO, Pakistan)
Water Supply & Pumping	- Municipal Water Pumping System Retrofits (Performance Contract, India) - Water Pumping Efficiency Projects (Shared Savings, Pakistan)
Agricultural Pumping	- Agriculture Demand Side Management (AgDSM) (India) - Solar Irrigation & Efficient Pump Projects (Service-based Financing, Bangladesh)

EESL Case Study - UJALA Programme



CUSTOMER CHALLENGE:

- High electricity use from inefficient appliances
- High upfront cost barrier for efficient technologies
- Fragmented consumer demand limiting scale

BUSINESS MODEL (ESCO MODEL):



KEY IMPACT (LED PROGRAMME) (As of 1st July 2026)



LED BULBS DISTRIBUTED

36.87

Crore
(368.7 Million)



ANNUAL ENERGY SAVED

47,883

Million kWh
(47.883 Billion kWh)



ANNUAL CONSUMER SAVINGS

\$2.02

Billion
(₹19,153 Crore approx.)*



AVOIDED PEAK DEMAND

9,586

MW



ANNUAL CO₂ EMISSION REDUCTION

4.08

Million tCO₂
(4,078,789 tCO₂)



LED PROCUREMENT PRICE

\$3.26 → \$0.40

(≈88% reduction)
(Jan 2014 → Mar 2024)
(₹310 → ₹38.45 approx.)*

*Conversion rate used: 1 USD = ₹95 (approx.)



Impact metrics shown are for the LED bulb programme. The same ESCO model has subsequently been applied to LED tube lights and BLDC fans.



FLEXIBLE CONSUMER PAYMENT OPTIONS



1. PAY IN FULL

- ✓ Pay the total amount upfront
- ✓ Instant ownership of the product



OR



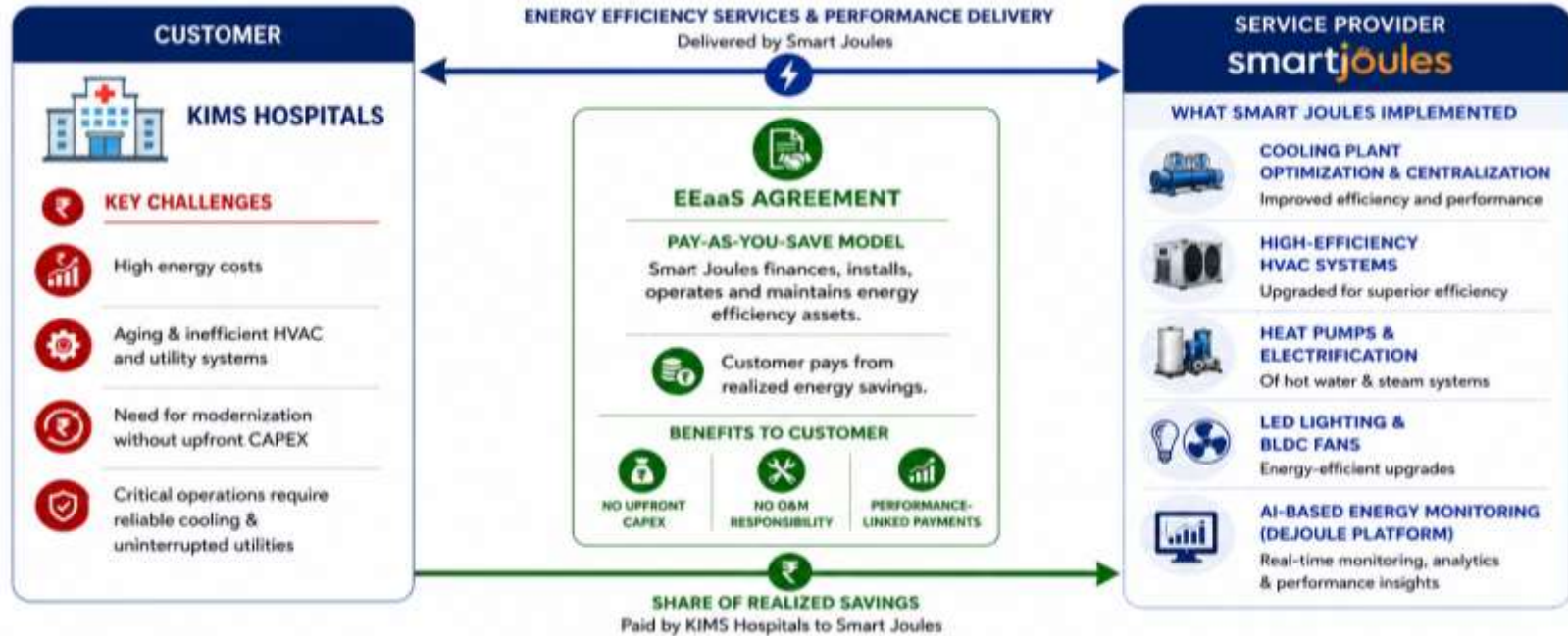
2. PAY AS YOU GO (ON-BILL FINANCING)

- ✓ Pay a small initial amount (e.g., ₹10)
- ✓ Balance paid in easy monthly instalments through your electricity bill



Smartjoule EE case study

KIMS Hospitals (India) sought to reduce energy costs and improve utility performance without investing upfront capital. Smart Joules was engaged to finance, implement, operate, and maintain energy efficiency upgrades under a Pay-as-You-Save model.



Key Results

22% improvement in energy

0.45 kWh/TRH cooling achieved

US\$1.14 million Annual energy savings

No upfront CAPEX

Heat as a Service - HaaS(Potential Business Model)



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1. KEY CHALLENGES IN CONVENTIONAL SYSTEM



High fuel costs & price volatility
Dependence on coal, gas, and oil



High upfront CAPEX
Significant investment in boilers, furnaces and thermal infrastructure



Low efficiency & operational complexity
Higher energy costs and maintenance burden



Decarbonization challenges
Limited expertise and technology risks in adopting cleaner heat solutions

2. DRIVERS FOR HaaS

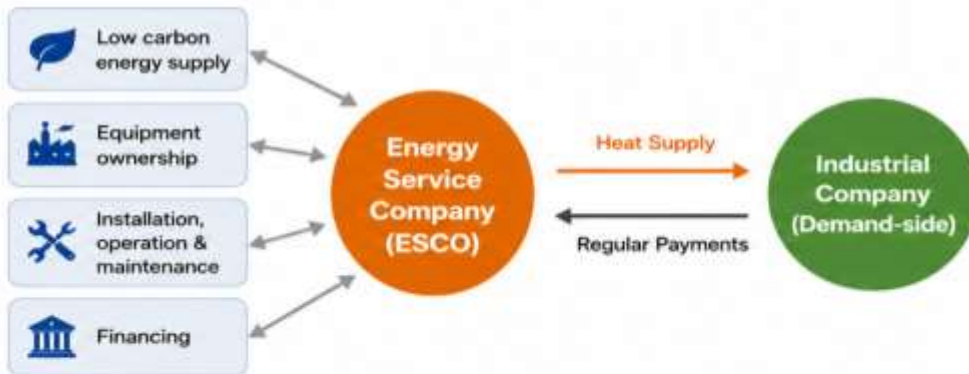


70–75% of industrial energy demand globally is used for process heat.



~50% of industrial heat demand is below 200°C, suitable for heat pumps, waste heat recovery, and HaaS solutions.

3. HAAS BUSINESS MODEL



4. ADVANTAGES



Zero Upfront CAPEX
& Off-Balance Sheet
Financing



Risk
Transfer



Performance
Enhancement



Expert Asset
Management

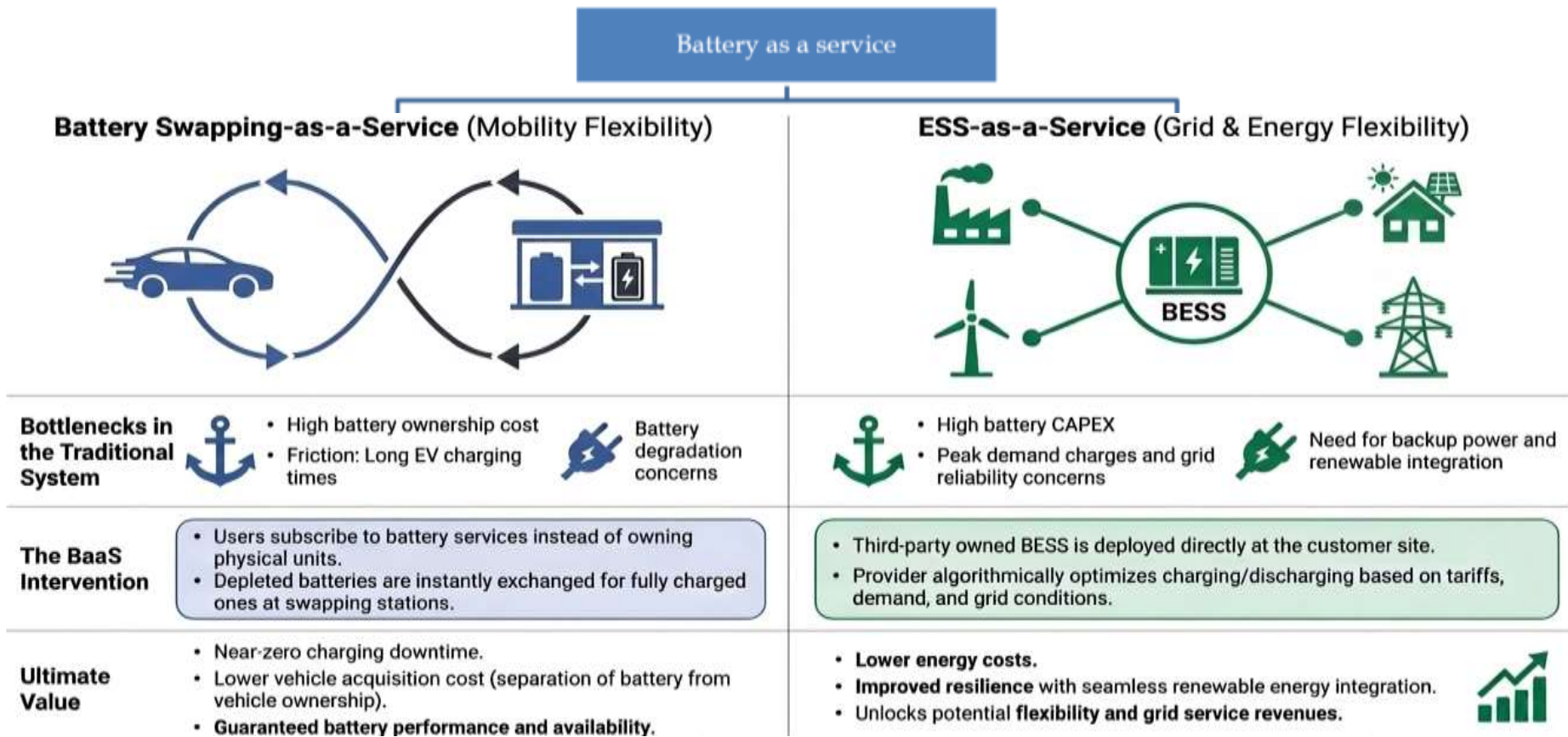


Comprehensive Upgrades
& Faster Deployment



Decarbonization &
Non-Energy Benefits

Battery as a Service (BaaS) Overview



Microgrid as a service (MaaS)

A service model where a third-party provider designs, finances, owns, operates, and maintains a microgrid (solar, battery storage, backup generation, controls), while the customer pays for energy services through a predictable OPEX-based arrangement.



Key Challenges in Traditional Energy Management

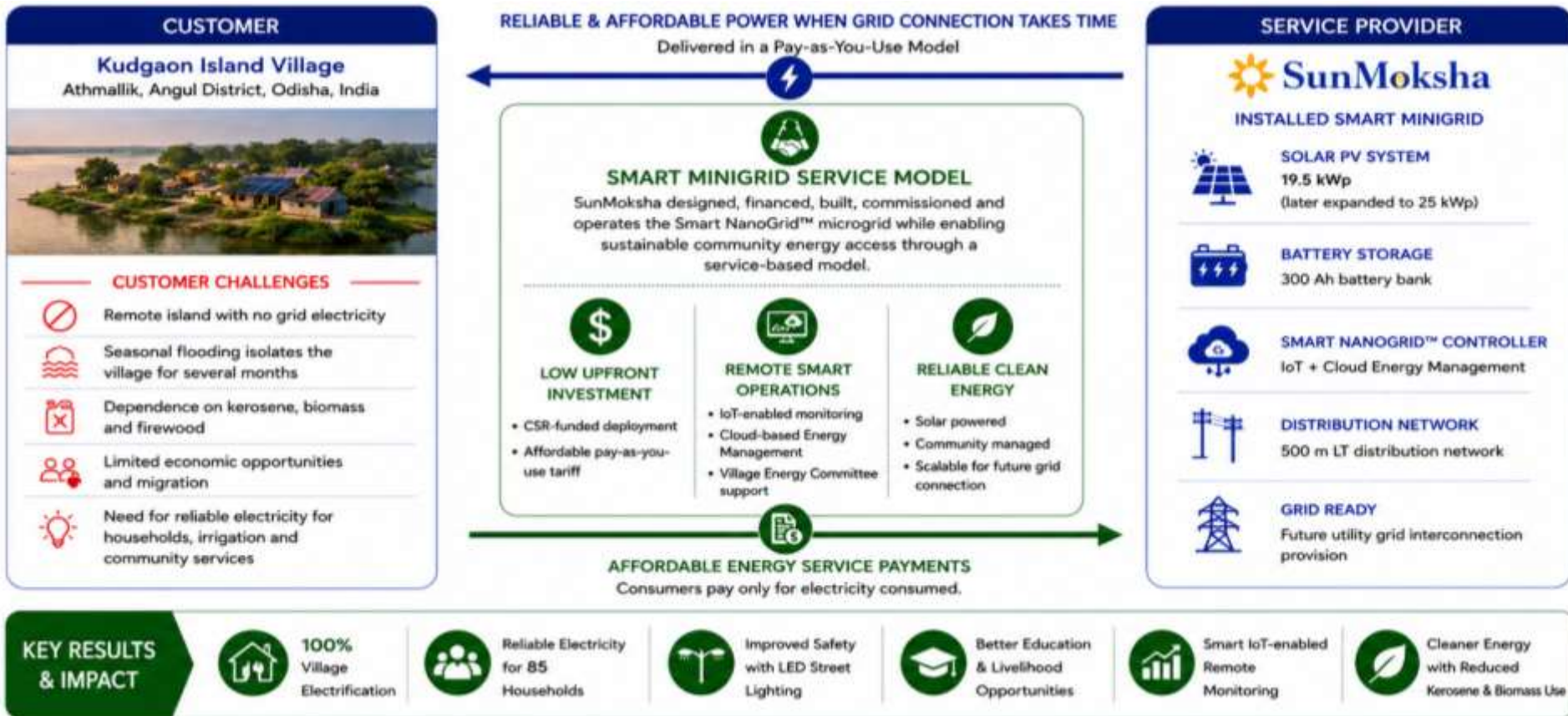
- Unreliable Grid Supply and Power Quality Issues
- Limited Energy Access in Remote and Underserved Areas
- Rising Energy Costs and Fuel Price Volatility
- Complex Asset Management to Optimize Solar, Battery, DG Sets, and Grid Power for Cost Savings
- High Capital Investment



Value Proposition of MaaS

- Integrated optimization of all energy assets
- Lower energy costs and improved efficiency
- Enhanced reliability and RE adoption
- Zero upfront CAPEX with risk transfer to provider
- Single-point accountability for energy management

MaaS Case Study



Learnings from Best Practices

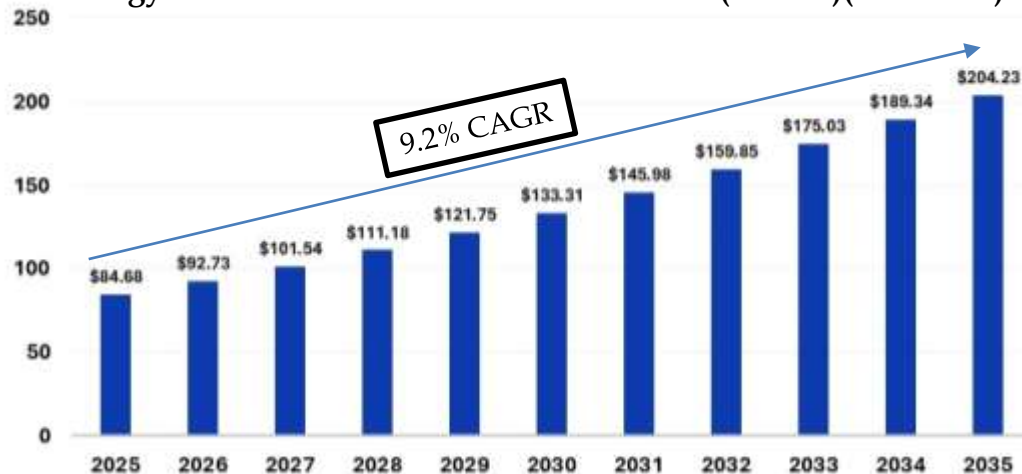
Best Practice	Why It Matters
Prioritize High-Impact Energy Applications	Faster savings improve customer adoption and project economics
Bundling of Multiple Services	Increases value creation and improves provider revenues
Outcome-Based Payments	Customers buy outcomes rather than equipment, improving adoption
Aggregate Demand and Assets	Improves bankability and attracts private investment
Leverage Digital Platforms for M&V	Enables performance verification and remote optimization
Transfer Technology and Performance Risk to Providers	Addresses customer concerns regarding technology obsolescence
Create Multiple Revenue Streams (Revenue Stacking)	Improves provider returns and project viability
Target Customers with Creditworthy Cash Flows	Improves access to financing and reduces payment risk

Target Segments

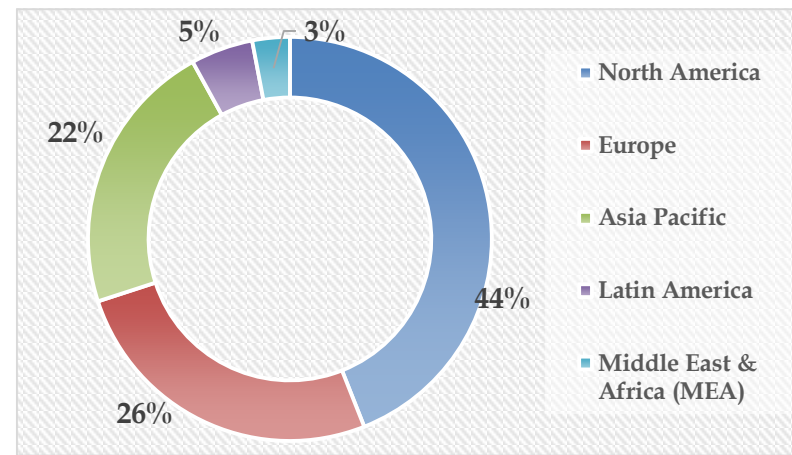
Customer Segment	Primary Pain Point	Suitable EaaS Model
MSMEs	Limited capital for energy upgrades and high energy costs	EaaS, SolaraaS
Commercial Buildings	High cooling and electricity costs	CoolingaaS, EaaS
Industries	Energy cost, process efficiency, reliability, and decarbonization needs	EEaaS, HaaS, Solar + StorageaaS
Residential Consumers	Rising electricity bills, rooftop solar affordability, and backup power requirements	SolaraaS, BaaS
Utilities	Peak demand growth, network constraints, and renewable integration challenges	BaaS
EV Fleet Operators & Commercial Mobility Providers	High battery ownership costs, charging downtime, and charging optimization requirements	Battery SwappingaaS
Rural/Remote Consumers	Reliable access to electricity and grid independence	MicrogridaaS

EaaS Global Market Overview

Energy as a Service Market Potential in USD (Billion)(2025-2035)



EaaS Market Share (2025)



Parameter	Mature Markets – North America, Europe	Emerging Markets – South and south east asia, Africa
Market Characteristics	Well-developed and widely adopted EaaS ecosystem	Nascent EaaS ecosystem with significant growth potential
Key Challenges	Market saturation and increasing competition	Limited capital, low awareness, policy gaps, and infrastructure constraints
Enabling Factors	Deep capital markets, supportive policies, and established ESCOs	Strong need for financing and infrastructure support
Primary Driver	Energy optimization, decarbonization, and resilience enhancement	Expanding access to reliable and affordable energy services

1

Long-Term Financing Infrastructure

Banks and institutional investors comfortable with 10–20 year performance-based cash flows.

US, Western Europe

2

Standardised contracts

Model ESA/EPC templates make deals bankable, comparable and replicable at scale.

US Federal ESPC

3

Established M&V norms

Trusted measurement & verification protocols (e.g. IPMVP) so savings are credible.

EVO / IPMVP

4

Public-sector driven demand

Governments, schools and hospitals (the 'MUSH' sector) provide bankable first demand.

US MUSH sector

5

Policy & accounting clarity

Clear off-balance-sheet treatment, procurement rules and stable regulation.

EU, US states

Opportunities for SAARC

SAARC Overview & EaaS Drivers in SAARC



1.9B

People in SAARC

~25% of global population



500M+

Energy-poor citizens

Inadequate access or reliability



60%

Clean energy target

Regional 2030 commitments



\$800B

Clean energy need

Investment gap by 2040

Why EaaS is the Answer – Key Drivers in SAARC Countries



Rising Energy Demand

- Energy demand rising faster than grid expansion and capital availability.



Infrastructure & Reliability Gaps

- Frequent power quality issues (voltage fluctuation, outages).
- High dependence on backup diesel generators → higher operating cost.



Capital Constraints in Energy Transition

- Lack of upfront CAPEX for energy efficiency & clean energy upgrades.
- High interest rates & limited long-term financing.
- Competing priorities for limited industrial CAPEX.



Rapid Industrial Growth

- Textiles, food processing, cement, steel, cold chain, and informal manufacturing with large untapped efficiency and distributed energy potential.



Falling RE Costs & Digital Infrastructure

- Cheaper solar, storage, and smart energy technologies.
- Smart meters and IoT enable remote energy management.



Policy Push for Decarbonization

- Net-zero commitments (India, Bangladesh, Sri Lanka, Nepal).
- Increasing focus on energy efficiency, RE integration, and carbon reduction.



EaaS enables affordable, reliable, and sustainable energy access by lowering upfront costs, reducing risks, and accelerating clean energy deployment across the SAARC region.

Current status of EaaS in SAARC

Country	Third-party Supply Contracts / Utility PPAs	Private Rooftop Solar (RESCO/ Leasing/ OPEX)	EaaS (ESCO)	Cooling-aaS	BESS-aaS	EV Charging-aaS	Battery Swapping-aaS	Microgrid-aaS
India	□	□ → □	□	□ → □	□	□	□ → □	□ → □
Pakistan	● → □	□	□	●	●	□	●	□
Bangladesh	□	□	□	□	● → □	●	□ → □	□
Sri Lanka	□	□	□	□	●	□ → □	□	□
Nepal	□	□	□	●	●	□ → □	□	□ → □
Maldives	□ → □	□	●	●	● → □	□	○	□ → □
Bhutan	●	●	○	○	○	●	○	●
Afghanistan	□ → □	●	○	○	○	○	○	□

□ **Commercially Established**: Multiple providers, widespread commercial adoption, and a proven, scalable business model.

● **Nascent**: Pilot or isolated commercial projects with limited market presence and scalability.

□ **Commercially Developing**: Growing commercial deployments with increasing private participation, but market penetration remains limited.

○ **Not Evident**: No verified commercial implementation or market activity identified.

□ **Early Commercialization**: Limited commercial deployments with a validated business case and early market adoption.

→ □ **Transitioning**: Market is progressing towards the next maturity level (e.g., □ → □, □ → □).

Current status of EaaS in SAARC

Country	EaaS Market Status	Major EaaS Segments
India	☐ → ☐ Commercially Developing → Established	Third-party PPAs, RESCO Rooftop Solar, ESCO, Battery Swapping, Microgrids
Pakistan	● → ☐ Nascent → Early Commercialization	Third-party Supply, Rooftop Solar, ESCO, Microgrids
Bangladesh	☐ → ☐ Early Commercialization → Commercially Developing	RESCO Rooftop Solar, ESCO, Cooling, Battery Swapping
Sri Lanka	☐ Commercially Developing	Solar Leasing/RESCO, ESCO, EV Charging
Nepal	☐ Early Commercialization	RESCO Solar, EV Charging, Community Microgrids
Maldives	☐ → ☐ Commercially Developing → Established	Resort Solar PPAs, Hybrid Microgrids, BESS
Bhutan	● Nascent	Community Microgrids, EV Charging
Afghanistan	☐ Early Commercialization	Utility PPAs, Community Microgrids

Barriers for EaaS Adoption in SAARC

Financial Barriers

- Shallow local capital markets; limited availability of long-tenor debt
- High cost of capital (10–18% in SAARC vs 3–6% in developed markets)
- Currency risk discourages foreign investment and SPV financing
- Lack of standardized EaaS contracts and bankability frameworks
- Weak creditworthiness of off-takers (utilities & public sector)

Policy & Regulatory Barriers

- Unclear licensing framework for third-party energy providers
- Subsidized tariffs reduce EaaS competitiveness vs grid supply
- Restrictive grid interconnection policies for distributed generation
- Absence of standardized M&V protocols
- Limited awareness among policymakers and regulators

Market & Awareness Barriers

- Low awareness of EaaS models among potential clients
- Preference for traditional procurement due to risk aversion
- Limited number of experienced local EaaS developers/aggregators
- Absence of secondary market for EaaS project portfolios
- Difficulty aggregating small projects into investable scale

Key Market Strategies

Regulatory Reform & Policy Framework

- Market Access & Grid Integration
- Tariff & Market Mechanisms
- Licensing & Private Participation
- Renewable, Decarbonization & Efficiency Mandates
- Financial Incentives & Support Mechanisms
- Performance, Metering & Data Frameworks

Financial Innovation

- Blended Finance & Credit Enhancement Mechanisms
- Payment Security & Receivables Risk Mitigation
- Project Aggregation, Securitization & Capital Market Instruments
- Green Finance Recognition & Sustainable Investment Frameworks
- Inclusive Customer Financing & Repayment Mechanisms

Market Development

- Anchor Demand Development in High-Potential Sectors
- Public Sector Demand Aggregation & Bulk Procurement
- Provider Accreditation & Market Transparency Systems
- Standardized Measurement, Verification & Performance Reporting
- Pilot & Demonstration Projects

Capacity Building

- Regulatory Capacity Development
- Financial Sector Capacity Building
- ESCO & Service Provider Development
- Utility Transition & Integration Programs
- Customer Awareness & Workforce Development

For Consumers

- **Reliable and Resilient Energy Access** : Improve power quality and reliability for industries, businesses, institutions, and remote communities.
- **Accelerated Decarbonization** : Enable adoption of renewable energy, storage, energy efficiency, electrification, and clean heating/cooling solutions.
- **Affordable Energy without Upfront Investment** : Access modern energy infrastructure and services without large CAPEX requirements.

For Investors & Service Providers

- **Large Untapped Market Opportunity** : Growing demand for clean, reliable, and flexible energy services across multiple sectors.
- **Sustainable Revenue Streams** : Long-term service contracts create predictable and scalable revenue opportunities.
- **Innovation and Private Capital Mobilization** : Unlock new business models, attract investment, and accelerate deployment of advanced energy technologies

As demonstrated in mature markets, Energy-as-a-Service has the potential to provide reliable and affordable energy, accelerate decarbonization, unlock private investment, and create a thriving energy services ecosystem across the SAARC region – a true win-win for all stakeholders.

Potential Role of SAARC Energy Centre



Area	Potential SEC Initiatives
Policy Support	Develop a SAARC EaaS Framework, model ESCO policies, and regional implementation guidelines.
Knowledge Hub	Create a regional repository of case studies, best practices, business models, and technology solutions.
Capacity Building	Organize regional training, workshops, certification programmes, and utility-ESCO exchange visits.
Research & Studies	Publish SAARC EaaS market assessments, financing studies, technology outlooks, and policy benchmarking reports.
Pilot Projects	Facilitate demonstration projects in public buildings, municipalities, industries, and island/off-grid communities.
Regional Collaboration	Connect governments, development partners, financial institutions, ESCOs, and technology providers to promote regional partnerships and investment.

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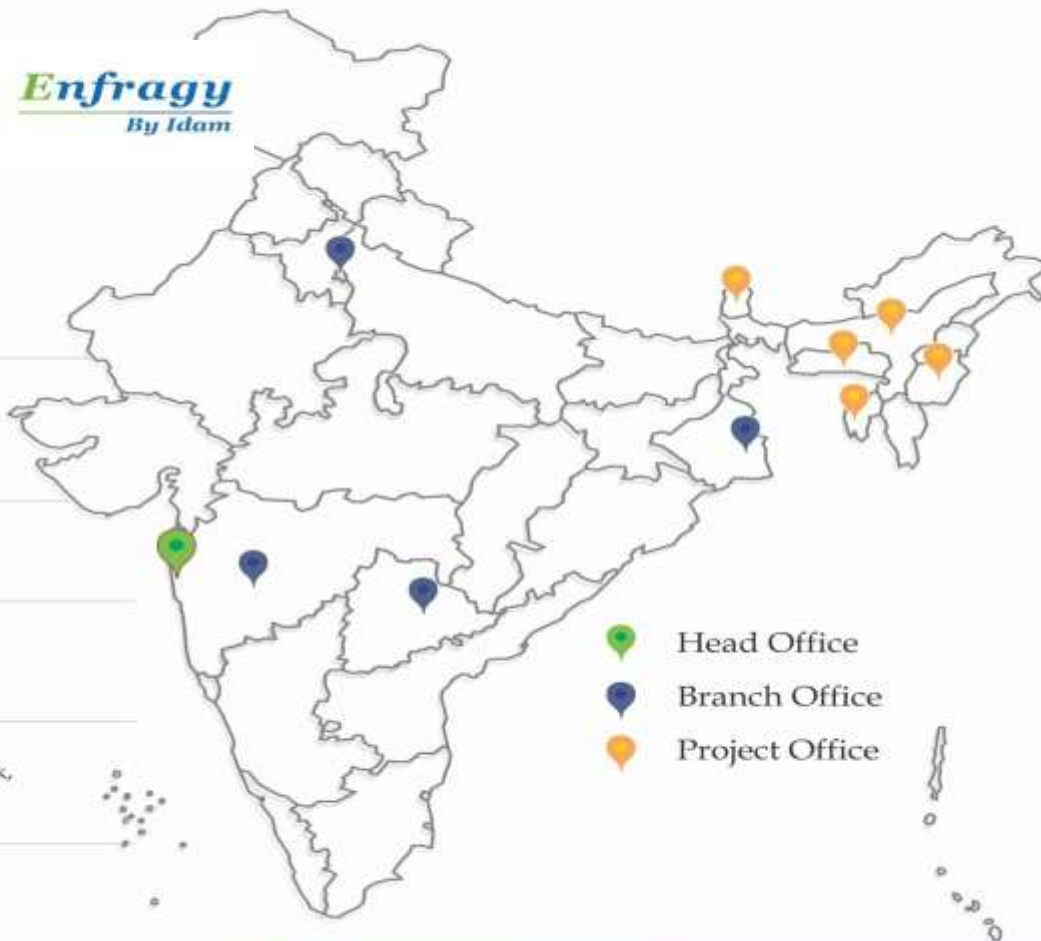
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Market Landscape for EaaS (India Specific)

Evolution

Utility-Centric / Vertically Integrated Energy (Pre-1990s)

Market Liberalization & Power Sector Unbundling(1990s–2008)

Energy Efficiency & ESCO Development (2001–2015)

DER Revolution (2010–2022)

Third-Party Asset Ownership & Service Expansion (2022–2025)

Digitalization, Storage & Flexibility Market (2024 onwards)

Integrated Outcome-Based Energy-as-a-Service (Current)

Key Milestones	Market Dynamics
State Electricity Boards (SEBs)	Utility owned all assets and supplied electricity as a commodity
Electricity Act 2003, Open Access, Power Exchanges (IEX)	Private participation in generation and energy trading
Energy Conservation Act, BEE, PAT, EESL & PAYS model	Energy savings became measurable and bankable
Net Metering, Rooftop Solar Policies, RE Targets, Falling Solar Costs	Energy assets moved behind the consumer meter
Green Open Access Rules, Energy Storage Framework, Storage Leasing	Third parties could own and operate customer-side assets
Smart Meters, ToD Tariffs, Ancillary Markets, Demand Response	Energy became manageable in real time
Solar + Storage + EV + EMS +IOT +AI integration	Customer buys outcomes rather than assets

EaaS major implementations/providers in SAARC



Country	Representative Commercial Implementations
India	• Third-party PPAs • Private Rooftop (RESCO) • ESCO • Cooling-aaS • BESS-aaS • EV Charging-aaS • Battery Swapping • Microgrid-aaS
Pakistan	• Third-party Supply • Private Rooftop • ESCO • EV Charging-aaS • Microgrid-aaS
Sri Lanka	• Third-party / Solar Leasing • Private Rooftop • ESCO • BESS-aaS • EV Charging-aaS • Microgrids

EaaS major implementations/providers in SAARC

Country	Representative Commercial Implementations / Key Service Providers
Bangladesh	• Third-party / RESCO • Private Rooftop • ESCO • Cooling-aaS • BESS-aaS • Battery Swapping • Microgrids
Nepal	• Third-party / RESCO • ESCO • BESS-aaS • EV Charging-aaS • Microgrids
Maldives	• Third-party PPAs • Private Rooftop • BESS-aaS • EV Charging-aaS • Microgrids
Bhutan	• Microgrids • EV Charging-aaS
Afghanistan	• Third-party Supply • Microgrids