

**PROGRAM-FOR-RESULTS INFORMATION DOCUMENT (PID)
CONCEPT STAGE**

Report No.: 113843

Program Name	India Energy Efficiency Scale-Up Program (P162849)
Region	South Asia
Country	India
Sector/Global Practice	Energy and Extractives Global Practice
Lending Instrument	Program-for-Results
Program ID	P162849
Borrower(s)	Department of Economic Affairs (DEA), Ministry of Finance
Implementing Agency	Energy Efficiency Services Limited (EESL)
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Concept Review Decision	Following the review of the concept, the decision was taken to proceed with the preparation of the operation.

I. Introduction and Context

Country Context

India's power sector is undergoing sustained growth to continue to fuel economic growth and meet the needs of its population. India's annual Gross Domestic Product (GDP) growth rates averaging above 7 percent led peak power and energy demand to grow at 4.9 percent and 5.3 percent annually respectively since 2008. Energy demand will continue to grow rapidly, contributing about a quarter of the increase in global energy demand by 2040. An ambitious power generation capacity expansion effort is under way, with installed capacity exceeding 300 gigawatts (GW) in 2016, and expected to rise to 1,076 GW by 2040. Significant gains have been made in expanding electricity access, from 56 percent of the population in 2001 to over 80 percent in 2016.¹

Despite these achievements, reliable grid electricity supply remains a challenge. It is estimated that about 250 million people are without grid connections, and of these, around two thirds reportedly choose not to connect because electricity supply is unreliable. Heavily indebted Distribution Companies (Discoms)² are unable to afford network investments and adequate power purchases to allow them to provide reliable supply. Households and agricultural consumers face unreliable supply and load shedding. Industrial and commercial enterprises have invested in expensive, inefficient and polluting diesel back-up generation, and incur associated coping costs.

¹ IEA, World Energy Outlook, 2016

² Annual and cumulative financial losses by public Discoms are about \$15 billion and \$66 billion respectively.

India’s per capita electricity consumption is expected to grow in coming years. India is currently the world’s third largest consumer of electricity, however, per capita consumption, at 1,090 kilowatt-hours (kWh), it is only one the third the global average. Significant growth in electricity demand is expected due to rising incomes and rapidly urbanizing populations purchasing more electrical appliances. Combined with the expansion of access, poses challenges for the already vulnerable system, and the Government’s goal of 24x7 Power for All.

The power sector is heavily reliant on coal. Coal consumption in power generation and industry is expected to continue to grow significantly, making India the world’s largest source of growth in coal use over the next decade. Around 60 percent of India’s electricity generation is coal-fired (192GW) and about 50 GW coal-fired capacity is expected to be installed by 2020. An ambitious program to increase renewable energy based generation capacity to 175 GW by 2022 is under way, and renewables (excluding large hydropower) currently account for around 15 percent of power generation capacity. However, even if India achieves its target of 40 percent non-fossil fuel based generation capacity by 2030, this will only contribute to 25 percent of energy supplied.

In this context, energy efficiency has a critical role to play. India’s Nationally Determined Contribution (NDC), as declared in Paris at Conference of Parties (COP 21), includes the goals of expanding its renewable energy, energy efficiency, forestry, urban, and pollution reduction programs. In its NDC, India has made several commitments, including to: (i) to adopt a climate friendly and cleaner path; (ii) reduce its carbon intensity by 33-35% by 2030 from 2005 level; and (iii) achieve about 40% cumulative electric power installed from non-fossil-fuel based energy resources by 2030, among others.

Sectoral and Institutional Context of the Program

Energy efficiency is critical to India meeting its NDCs, moderating demand growth, and addressing the multiple challenges facing India’s electricity sector. Maintaining India’s electricity supply-demand balance while curbing thermal generation and therefore Greenhouse Gas (GHG) emission growth, will require a combination of investments in networks, additional clean energy generation capacity and energy efficiency (EE). India’s energy savings potential, illustrated in Table 1 and estimated to be 15-30 percent across all demand segments, remains largely untapped. Industry and residential sectors offer the highest saving potential.

Table 1 – Estimated energy savings potential by sector

Sector	Energy savings potential (million toe per year)
Industry	9.45
Residential	5.95
Commercial Buildings	0.30
Public lighting	0.72
Agriculture	2.58
Total	19.01

Source: World Bank – ESMAP, “Utility Scale DSM Opportunities and Business Models in India,” 2016

Despite the significant potential, demand-side EE in India faces a series of barriers. The barriers facing India are similar to those facing other developing countries, which are widely documented.³ These include high upfront investment needs, lack of availability of commercial financing; weak balance sheets of EE service providers, high perceived risk of EE for banks and financial institutions which have limited familiarity and capacity to evaluate the EE projects, which lead to higher financing costs, and small scale and dispersed nature of projects particularly in the residential sector, which leads to high transaction costs. In addition, there is limited information and consumer awareness on EE, and limited customer incentives to save energy, in cases where tariffs are not fully cost reflective.

In order to overcome the barriers to EE, the Government took a series of policy, regulatory and institutional steps. Major Government actions include the Integrated Energy Policy (IEP), Energy Conservation Act of 2001, Electricity Act of 2003, and the National Mission for Enhanced Energy Efficiency (NMEEE) under the National Action Plan on Climate Change (NAPCC) of 2008. These were followed by regulatory mandates including the Perform, Achieve and Trade (PAT) scheme setting mandatory energy saving targets in large energy-intensive industries, support to financing for Energy Service Companies⁴ (ESCOs), and to kick-start market transformation by introducing appliance EE standards, building EE codes and financing instruments. The Bureau of Energy Efficiency (BEE) was created in 2002 under the Ministry of Power to formulate policies and regulations, raise awareness, build capacity, develop EE and conservation programs, and support central and State governments.

Recent initiatives have begun to deliver results, but sustained investment in EE is yet to be realized, especially in the residential and public sectors. EE policies and regulations achieved early successes by 2008-2009, especially the industrial sector, which reduced its energy intensity thanks to several factors, including the PAT scheme⁵. Even though Minimum Energy Performance Standards and EE labeling for appliance and equipment have been in place for a while, progress in the residential and public sector EE remained relatively slow. This was mainly due to lack of awareness, inadequacy of incentives, limited financial resources, high costs and perceived risks. As there was limited competition between a small set of manufacturers that offered a few energy efficient products, they were rather expensive, hence unaffordable for a significant group of retail consumers. Going forward, electricity consumption by lighting, ceiling fans, air conditioners, refrigerators, agricultural pumps, and industrial motors is set to grow significantly.⁶ Given the potential growth in use of such appliances, and electricity consumption, the Government has focused on supporting the scale-up of EE appliances and equipment.

In recent years, service provision by ESCOs has emerged as a credible approach to addressing barriers to EE around the world. Typically, ESCOs offer EE financing, project

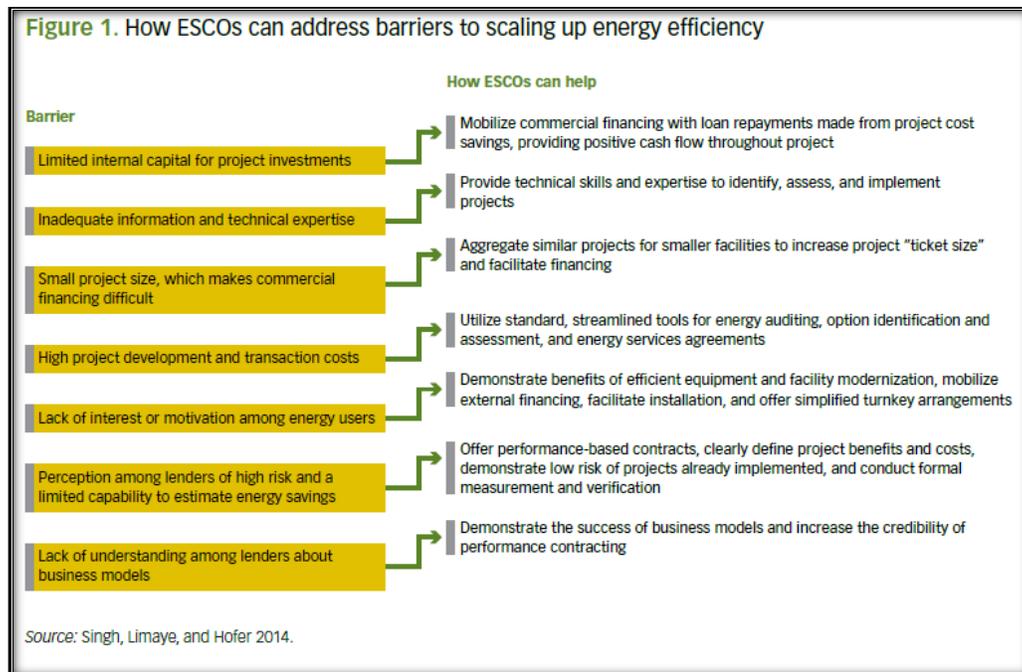
³Sorrell, Steve, et al. "Reducing barriers to energy efficiency in public and private organizations" University of Sussex (2000); Chai, Kah-Hin, Yeo. "Overcoming energy efficiency barriers through systems approach—a conceptual framework." Energy Policy 46 (2012); Langlois, Simon et al. "Political-institutional barriers to energy efficiency." Energy Strategy Reviews 8 (2015)

⁴ ESCOs are entities that provide a range of saving solutions for development, implementation and financing of EE and conservation projects. Services provided varies by context, client demand and ESCO type.

⁵ India's average energy intensity has declined from 450 toe/\$GDP in 2005 to 380 toe/\$GDP in 2014.

⁶ From an estimated 235,757 GWh/year in 2016 to 508,485 GWh/year by 2031. Source: World Bank, *Residential consumption of electricity in India: Strategies for low carbon growth* (2008).

development and implementation services. There are variations depending on context and market segment targeted, but ESCO services can cover energy audits, identifying and designing projects, procurement, construction, installation, operations and maintenance, and measurement and verification.⁷ Figure 1 illustrates the ways in which the ESCO model addresses barriers to EE.



India has a nascent and growing ESCO industry, facing market development challenges. In the recent years, several ESCOs entered the market in India, but were unable to scale their business significantly, facing relatively typical early market development challenges, such as targeted companies' lack of knowledge of potential savings from EE or benefits of ESCO services. In addition, availability and cost of finance was a major challenge, due to hesitance by financiers and sponsors to invest in energy savings; lack of familiarity with the shared savings model, where the ESCOs would need to raise debt based on savings that would be accrued in the future; and weak balance sheets of some ESCOs. For institutions that were not experienced with this model, the perceived risk, and hence the cost of financing offered, was high.

Energy Efficiency Services Limited (EESL) has emerged as a vital entity for EE in India by financing and implementing EE measures across various segments. EESL was established in 2009 as a public sector ESCO, or Super ESCO, under the Ministry of Power (MoP) to promote the uptake of energy efficient appliances and catalyze market development, through provision of EE products and services. In close coordination with MoP, BEE, State governments, Urban Local Bodies (ULBs), and Discoms, EESL has been in the forefront of promoting EE in residential and public sectors, addressing barriers and helping unlock the EE potential in many segments which had remained largely untapped for decades. In particular, with the help of public sector financing, use of practical business models and leveraging relationships with State governments to partner with Discoms and municipalities, EESL has been able overcome the

⁷ Singh, Limaye, Hoffer, World Bank Livewire "Fostering the Development of ESCO Markets for Energy Efficiency," 2016

challenges resulting from the lack of commercial financing in these segments, demonstrate the viability of EE and trigger market transformation. EESL managed to deliver EE in diverse contexts, including for entities that were traditionally not deemed adequately creditworthy by the private sector, and hence had limited interaction with ESCOs. In its role as a Super ESCO, EESL also is mandated with supporting the development of private ESCOs and the broader development of EE market in India.

EESL approach involves aggregating demand for energy efficient appliances and equipment and using competitive bulk procurement to improve affordability while ensuring quality. Using a combination of financing sources, including equity capital from its promoters⁸, along with loans from development partners and commercial lenders, EESL provides upfront financing for investment, delivers solutions, and is repaid based on energy saved by the consumers. EESL has been able to mitigate upfront financing risk for its customers by making the entire upfront capital investment using its own capital, and has demonstrated the viability of the deemed savings approach⁹ as the basis for contracts, paving the way for use of this and other performance-based contractual models by private ESCOs. In addition, by procuring large volumes from a variety of suppliers that meet strong technical standards, this model can help spur development of manufacturing capacity in India.

Central to EESL’s success has been its “Unnat Jyoti by Affordable LEDs for All” (UJALA) initiative, which is a market-driven program for sale and distribution of energy efficient LED lightbulbs. The ultimate target of the UJALA program is to increase the market penetration of LED lightbulbs, by bringing down prices enough for a strong consumer preference for energy efficient LEDs to emerge, and for market penetration to continue unaided by EESL intervention – the point at which a sustainable market has been created. The initiative has already been highly successful, having deployed over 190 million 7 watt and 9 watt LED bulbs to households and institutional consumers through bulk procurement, distribution, quality control, measurement and verification (M&V) of savings, and after-sale and warranty servicing, while also significantly reducing the price of LED lightbulbs in the market.

EESL combined the bulk procurement model with ESCO service delivery for energy efficiency in public street lighting. Working together with States and ULBs, EESL has successfully deployed efficient LED street lighting solutions in cities under the Street Lighting National Program (SLNP). Under this program, EESL enters into agreements with municipalities to retrofit existing streetlights with LED lightbulbs and fixtures, and maintain them for a seven-years. The entire upfront investment for the street lights is made by EESL and recovered from the energy savings of municipalities over the project duration, using the deemed savings approach. As of February 2017, EESL had installed over 1.6 million street lights across 21 Indian states, contributing to estimated energy savings of around 600 MWh per day.¹⁰ In order to maximize the penetration of energy efficient street lights EESL will need to leverage the capacity and resources of the broader ESCO industry, and enhance access to broader and more efficient sources of finance.

⁸ EESL is a joint venture by the National Thermal Power Corporation Ltd. (NTPC), PowerGrid, Power Finance Corporation (PFC) and Rural Electrification Corporation (REC)

⁹ Pre-determined energy savings attributable to EE measures in a particular application,

¹⁰ Energy Efficiency Services Ltd. Street Lighting National Program (SLNP) Dashboard. <http://www.eeslindia.org/slntp/>

Building upon its experience with the UJALA and SLNP, EESL is expanding these programs to cover other appliances and equipment, using business models that build on the UJALA experience but with increasing complexity both in terms of the appliance offered, and delivery approaches. EESL is developing programs for scale-up of energy efficient air conditioners and agricultural pump sets. These programs are currently under development and will require further technical design, fine-tuning and pilot phases before they can be financed at scale. For each of these segments, EESL intends to invest to the point that the targeted level of market penetration and sustainable price reduction for the energy efficient appliance or equipment has been achieved.

EESL has mobilized significant financing for EE, but needs to improve the efficiency with which it accesses commercial capital. As noted earlier, one of the market barriers to EE in India is limited availability of commercial financing. Without sufficient financing, there is the risk that EESL will not be able to achieve sustainable market penetration for energy efficient appliances, or leverage the broader ESCO industry to develop public street lighting and other nascent initiatives. EESL has already raised commercial financing from a diverse set of sources, including commercial banks, domestic capital markets, and private investors. However, adequate access to commercial financing now risks presenting a bottleneck in the achievement of the goal of market transformation. Going forward, EESL will explore new and innovative models of raising commercial debt, which will enable reduced dependence on public finance, mobilize private resources more efficiently, and unlock commercial financing for the broader ESCO market.

Relationship to CPF

Alignment with GoI's national priorities. The proposed operation, which would support development and implementation of EE interventions under the Government's program, is aligned with the GOI's NAPCC, NMEEE, and the Energy Conservation Act, and is a critical component in India meeting its Nationally Determined Commitments under the COP21 Paris Agreement.

Alignment with WBG India Country Partnership Strategy. The proposed operation is consistent with the World Bank Group India Country Partnership Strategy (CPS) for 2013-2017, and contributes to achieving the objectives of the pillar dedicated to Transformation (Engagement Area 2). With India already among the highest GHG emitting countries, and emissions projected to grow further over the next decade, the energy sector is at the core of addressing the climate change challenge. In this context, a key outcome of the Transformation pillar of the 2013-2017 CPS is to reduce GHG emissions through EE and renewable energy. The proposed operation would directly contribute to achievement of this CPS outcome, by supporting the Government's program to scale-up of high efficiency appliances and equipment using market-based approaches, and institutional strengthening to continue sustainable market transformation.

Alignment with the Government's other commitments. A government priority captured in India's NDC is reducing GHG emission intensity of GDP by 33 to 35 percent from the 2005 level, for which EE is one of the key mitigating actions. India is a member of the Super-Efficient

Equipment and Appliance Deployment (SEAD) initiative of the Clean Energy Ministerial (CEM), through the BEE. India has also been a part of the implemented Sustainable Energy for All (SE4ALL) initiative, committed to doubling the global rate of improvement of EE by 2030. In addition, energy efficiency is closely aligned with Sustainable Development Goal 7 (SDG 7) of ensuring access to affordable, reliable, sustainable and modern energy for all by 2030.

Purpose of the proposed operation. The proposed operation is intended to support the implementation of the Government's NMEEE, through meeting the financing needs of EESL's programs, and institutional strengthening for sustainable EE market transformation in the residential and public sectors. The purpose of the proposed Program for Results (PforR) operation is to overcome the main barriers to EE scale-up in the residential and public sectors, particularly (i) *small and dispersed nature of demand and relatively high price of EE solutions*, which can be addressed through aggregating demand and offering standardized equipment procured in bulk to reduce cost to sustainable low levels, while maintaining quality, (ii) *high upfront cost of efficient appliances and equipment for consumers*, which can be addressed by EESL's approach of offering efficient appliances and equipment at no upfront cost to consumers and annuity repayment model based on deemed savings; and (iii) *limited access to commercial financing* for EE, which can be addressed by strengthening the capacity of EESL, creating opportunities for private ESCOs, developing innovative financing solutions, and building on EESL's track record and strong balance sheet to leverage access to commercial financing for EE projects and the broader ESCO industry. EESL's programmatic scale-up of EE within the Indian context also has potential for informing the transformation of other national and even global EE markets.

Rationale for Bank Engagement and Choice of Financing Instrument

Rationale for supporting EE in India. Energy efficiency is recognized as the most cost-effective and locally available energy resource to address rising energy demand, enhance energy security, increase industrial competitiveness, and avoid GHG emissions. Energy efficiency has a critical role in helping India continue to meet the energy needs of its growing economy, and its rapidly urbanizing population; defer capital intensive investments in new power generation; relieve the electricity subsidy burden on the States; avoid GHG emissions; and prevent local air pollution. Both public and private financing is necessary to realize the potential of EE as a cost-effective and sustainable resource to meet India's energy needs.

Rationale for public financing. With recent policy, regulatory and institutional actions, India has taken critical steps to overcome a key barrier to EE, and there has been a degree of success in the industrial and commercial sector. On the other hand, EE implementation progress and private sector participation has been relatively limited for the residential sector and the public sector where insufficient financial resources are available, and where EE opportunities are small and scattered. Public financing in these segments is justified by the limited progress in EE uptake to date, relatively high upfront cost faced by consumers, limited access to commercial financing, and a lack of interest from the private sector to invest in these segments.

Rationale for supporting EESL's program. India's recent EE implementation efforts have been centered on EESL, and this has resulted in unprecedented, and by many accounts, globally significant, progress towards EE market transformation in a relatively short time frame. EESL

has begun to address specific barriers in the lighting market, and building on this initial success, aims to expand its operations and impact. EESL intends to continue to transform the EE market by carrying out bulk procurement to reduce price barriers; leveraging private sector participation by supporting the broader development of the ESCO industry; and more efficiently mobilizing private capital using the increasing strength of its own balance sheet. EESL has the willingness and capability to evolve and adopt innovative implementation schemes, integrating lessons from Super ESCO model in other countries,¹¹ and delivering EE at scale and cost effectively.

Rationale for WB involvement. The proposed operation presents an opportunity to contribute to the Government’s program by providing scalable financing for the transformation of the EE market. The operation would not only achieve significant direct investment that will result in energy savings and GHG avoidance, but has the potential to leverage WB financing by multiples – stimulating sustainable market transformation, enabling access to private financing, and providing greater private sector participation in the EE market. EESL and the World Bank Group (WBG) have had a growing partnership during the last four to five years, starting with analytical, advisory and knowledge exchange activities. In response to EESL’s request for continued financial, technical and institutional strengthening support to accelerate the achievement wider uptake of EE appliances in the market, the proposed operation will build on previous WBG engagements to develop the market to the point that the private sector can lead growth. A key value added would be support to institutional development of EESL in the long term, to help realize EESL’s full potential as a SuperESCO for the transformation of the EE market, working with private sector ESCOs, service providers, utilities and financiers.

Fit within WBG engagement. The proposed operation will complement the World Bank Group’s diverse and growing program supporting supply and demand side efficiency in India, combining investment lending and technical assistance activities summarized in Table 2. The proposed PforR builds on these operations, and focuses on market segments not covered by them. The operation will be key contributor to WBGs clean energy agenda, complementing lending for RE.

Table 2 – Recent WBG projects supporting EE in India

Project	Scope	Funding (US\$m)
Partial Risk Sharing Facility for Energy Efficiency (PRSF) project,	Scaling up of private sector ESCO investments	\$25m Clean Technology Fund (CTF), \$18m GEF, incl \$2m TA for EESL.
Coal-Fired Generation Rehabilitation Project	Improving energy efficiency of selected coal-fired power generation	\$136m million IBRD, \$45.5m GEF
Financing EE at Micro Small and Medium Enterprises Project (FEEMP)	Support for EE at MSMEs in India	GEF
Rajasthan Electricity Distribution Andhra Pradesh 24x7 Power for All	Distribution and transmission projects, incorporating EE considerations into design	\$250m IBRD \$400 m IBRD (under preparation)
IFC: Advisory support to two municipal corporations in Bhubaneshwar and Jaipur	Design, structure, and manage bidding process for performance based ESCO street lighting project	IFC technical assistance and fund mobilization

¹¹ Such as the Korea Energy Agency in South Korea, the Federal Energy Management Program (FEMP) in the US, among others.

Rationale for use of PforR financing instrument. The PforR instrument is a good fit for supporting the Government's Program, as the proposed operation will support (i) an ongoing government program based on national systems, practices (technical, fiduciary, and safeguards) and robust implementation approaches, with co-financing from various sources, including IFIs; (ii) achievement of the measurable outputs and results of the program, which are aligned with the country's EE and GHG targets anchored in the NMEEE and NAPCC; and (iii) incremental improvements in the design of ongoing and new activities to ensure viability and sustainability, support private ESCOs and other EE market participants, and leverage public funds with other resources, especially commercial funds and climate financing. As the Government's program gears up to achieve market transformation targets in existing segments, expand into new segments, the Government is expected to focus on achievement of results and scaling up approaches that deliver. EESL has the mandate to implement the Government's program, develop the ESCO business, has well-proven implementation approaches, and demonstrated its capacity to deliver as a solid implementing agency, making it a good fit for the PforR.

Other lending instruments were considered, but were not deemed as good a fit as PforR. The Development Policy Financing (DPF) and Investment Project Financing (IPF) instruments were also considered. Use of DPF was deemed unsuitable at this time as there is already a sound basic enabling framework in place to support demand-side EE in industry, public, residential and other segments, and attention now needs to focus on effective implementation and overcoming remaining barriers to EE, especially in the residential and public sectors, where private sector involvement has been relatively limited. The IPF instrument was not deemed a good fit for the intended focus on the programmatic results beyond investments, or the flexibility offered by PforR.

II. Program Development Objective(s)

The proposed Program Development Objective is to save energy and avoid greenhouse gas emissions. PDO level outcome indicators would include those on market transformation for select energy efficient appliances and equipment, development of sustainable approaches for new market segments, enhanced access to commercial financing, and institutional strengthening.

III. Program Description

PforR Program Boundary

The NMEEE, which is part of the National Action Plan on Climate Change, aims to strengthen EE by creating conducive regulatory and policy regime and fostering innovative and sustainable business models NMEEE envisages four initiatives to enhance EE in energy intensive sectors, namely (i) PAT scheme for the industrial sector; (ii) Market Transformation for Energy Efficiency (MTEE) for accelerating the shift to energy efficient appliances in select sectors through innovative measures to improve their affordability; (iii) Energy Efficiency Financing Platform (EEFP), for creation of mechanisms that would help finance demand side EE programs in all sectors; and (iv) Framework for Energy Efficient Economic Development (FEEED), for development of fiscal instruments to promote EE.

As one of the key agencies tasked with NMEEE implementation, EESL will undertake a program of investments totaling nearly INR 655 billion (US\$10 billion) through 2022. EESL's mandate is to effect market transformation in sectors and appliances that show significant potential for energy savings. To that end, EESL's business plan, and its investment program up to Fiscal Year (FY22) include appliances under UJALA; SLNP; and scale-up in the newer areas such as agricultural water pumping (AgDSM), superefficient Air Conditioners (ACs) and municipal water pumping, among others, where preparatory analyses and business model development are currently under way.

The proposed PforR operation would support EE market transformation for high energy consuming appliances and equipment in residential and public sectors. The Program resources would focus on residential and public sectors, as market segments where progress in EE implementation has been relatively limited. Other high potential sectors, such as the industrial and commercial sectors are adequately covered under other initiatives, including those supported by the Bank and other donor partners.

A Program boundary narrower than EESL investment program for FY17-22 is proposed, corresponding to about INR 376 billion (US\$5.8 billion). The business model for newer program areas, such as ACs, AgDSM, and municipal water pumping are still not adequately defined and require additional preparatory work to ensure environmental, social, technical and financial sustainability of activities in these areas. Therefore, the proposed Program would support EESL in the development and piloting of sustainable business models and delivery approaches. In addition, the Program would support institutional strengthening, enhancing access to commercial financing to leverage EESL's resources, and development of India's ESCO industry.

The proposed PforR operation would support the Government Program in achieving market transformation, innovation, and sustainability. The Program would support:

- (i) Under Results Area 1, focusing on *EE market transformation in the residential sector*, meeting the financing needs to create sustainable market penetration for LED lightbulbs, tubelights, and energy efficient ceiling fans;
- (ii) Under Results Area 2, targeting *EE market transformation in public street lighting*, Meeting the financing need to create sustainable market transformation for investments in public street lighting, and incentivizing broader leveraging of the ESCO industry;
- (iii) Under Results Area 3, aimed at *development of sustainable business models in new market segments*, support for building sustainability elements into design of new initiatives under development (e.g. AC, AgDSM, and MuDSM), incubate these programs through pilots, and provide financing to kick-start scale-up.
- (iv) Under Results Area 4, centering on *enhanced access to commercial financing*, support for leveraging public resources through credit enhancement, access to capital markets and other structured financial solutions for both EESL and the broader ESCO industry in India.
- (v) Under Results Area 5, focusing on *institutional strengthening for sustainable EE scale-up in India*, Capacity development and institutional strengthening of EESL, and the broader ESCO industry, including on procurement, environmental and social safeguards, and innovative financial solutions.

Proposed support from the Transformative Carbon Asset Facility. In addition to the IBRD loan, efforts are under way to leverage additional results-based finance from the Transformative Carbon Asset Facility (TCAF), which will be launched in March 2017. The main objective of TCAF is to catalyze GHG mitigation at sector and/or policy level and accelerate sector-wide low carbon transformation to help countries achieve their mitigation goals through payments for GHG emission reductions.

Proposed approach for selecting Disbursement Linked Indicators. It is envisaged that DLIs selected for the Program will involve a balance of output and outcome level indicators. The goal will be to strike a balance of DLIs reflecting main outputs that contribute to the achievement of energy savings and GHG avoidance, with those that capture the longer term sustainability outcomes related to EE market transformation, execution of transactions involving the private sector, and development of innovative options for accessing commercial financing for EE.

IV. Initial Environmental and Social Screening

The proposed Program is primarily focused on scaling up deployment of energy efficient appliances and equipment in the residential and public sectors, and the interventions planned are expected to result in substantial environmental and social benefits. Adverse impacts that are sensitive, diverse and unprecedented on the environment and/or people are not foreseen. However, planned efforts are essential to ensure that the Program interventions will result in sustainable social and environmental benefits. As required by the Bank Policy on Program-for-Results Financing (July 2015), an environmental and social systems assessment (ESSA) will need to be conducted during Program preparation to assess the adequacy of the environment and social systems of EESL and identify specific measures if necessary.

Environment and Social system aspects. An initial assessment of the existing system was undertaken by the Bank, and it was noted that EESL has developed standardized Environmental, Occupational Health, Safety and Social (EHSS) Guidelines in 2016. EESL is currently in the process of adopting EHSS as part of its corporate policies. The Guidelines comprise a detailed manual which provides overview of policy, governance, EHSS risk assessment and new project activities, and is complemented by 12 standard operational procedures and four standard document templates. A preliminary review found that the Guidelines are overall well structured, detailed, and clear. Going forward, how these Guidelines are implemented, enforced and monitored will be key. The EHSS Guidelines currently focus on UJALA and SLNP, since the main activities under implementation to date have been under these programs. As EESL scales up its programs into different areas, the EHSS Guidelines would need to be expanded to cover all programs being implemented by EESL. With regard to newer initiatives currently under development, EESL expressed interest in exploring how sustainability concerns can be integrated into their design. It was agreed that as part of the ESSA to be undertaken during Program preparation, the Bank task team will conduct a detailed review of the EHSS Guidelines, including a gap analysis identifying areas where the Guidelines would be strengthened. A key gap identified early is the absence of dedicated environment and social safeguards specialists at EESL. To date, oversight of environment and social obligations have been the responsibility of the various EESL contractors and there is one EESL staff member who is in charge of overseeing the implementation of the EHSS Guidelines. During preparation, the task team would work closely with EESL to identify actions required for developing in-house environmental and social capacity, and identify additional institutional strengthening support needed for relevant staff.

There are three areas where there could be potential environmental impacts and where further assessment would need to be undertaken during preparation. During preparation the Bank task team would work with EESL to better understand the environmental risk profile and suggest sustainable approaches to mitigate and/or minimize potential risks arising from: (i) disposal of Compact Florescent Lamps (CFLs) when replaced under public street lighting projects, (ii) disposal of refrigerants and hardware in old AC units if EESL adopts an approach that involves replacement of customers' old units and installing a new one; and under (iii) AgDSM, measurement and monitoring of impact of energy efficient pumps on groundwater levels and quality. The current environmental rules and regulations of Government of India under Environment (Protection) Act, 1986 have relevant provisions to mitigate the environmental risks arising from the expected activities under the key result areas. The ESSA will examine any gaps in application of this existing legal and regulatory framework to the Program activities.

The initial assessment of the social issues reveals a low risk for adverse impacts arising from the proposed Program. Overall, it is deemed likely that the project will result in quantifiable benefits for marginalized groups, especially women, which can be identified, tracked and monitored. No significant social impacts from EESL programs were identified at this time, but will be evaluated in detail during preparation. During preparation, the task team will work with EESL to identify opportunities for innovation and inclusion of gender considerations in specific EESL projects, EESL's day-to-day operations, and corporate organizational practices.

Based on the findings of the ESSA, measures to strengthen institutional capacity and procedures, as well as any measures to generate the desired environmental and social effects, if required, will be agreed and included in the *Program Action Plan*. The Program will build on the experience of other Bank projects and use other good practices to mainstream environmentally and socially sustainable practices. Finally, it is critical that there is a dedicated staff to manage and assess environment and social safeguards within EESL for appropriate standards to be established and maintained. The ESSA will be completed and the report disclosed prior to appraisal.

V. Tentative financing

Source:	(US\$M)
Borrower/Recipient:	1,200
IBRD:	300
IDA:	
Others (specify):	4,300 (Domestic banks, bonds, other IFIs)
Total:	5,800

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