

Energy Efficiency and Conservation Financing Promotion Project, Bangladesh – Japan International Cooperation Agency (JICA)

Project overview and objectives

The Japan International Cooperation Agency's (JICA) Energy Efficiency and Conservation Financing Promotion Project in Bangladesh is designed to promote energy savings for industry and other economic activity, including the commercial buildings and residential appliances sectors. The project provides incentives to private firms to install updated energy efficient equipment to their production systems. The project is a partnership between JICA and the Government of Bangladesh (GoB), specifically the Bangladesh Sustainable and Renewable Energy Development Authority (SREDA), the Bangladesh Infrastructure Finance Fund (BIFFL) and the Bangladesh Infrastructure Development Company (IDCOL).

The project aims to nurture market development for energy efficient equipment by providing access to public finance for industrial firms. The project aims to contribute to reduce Bangladesh's national energy intensity, measured as the ratio of total primary energy consumption to real GDP. The project aims for a 20% improvement by 2030 compared to 2015, reflecting Bangladesh's Energy Efficiency and Conservation Master Plan (SREDA Power Division and JICA, 2015^[34]).

Identifying the market failure, risks, and barriers to investment

Energy efficient equipment is more expensive than conventional equipment. Though the difference of initial costs is recouped through energy savings and lower bills over time, high initial costs create burdens to industry owners, limiting the viability of purely commercial financing.

In perfectly competitive markets, energy efficient equipment is utilised less than the optimal amount due to its positive externalities, in the form of cleaner air and lower greenhouse gas emissions. These are not fully internalised by the purchaser of the equipment, resulting in sub-optimal investment in efficiency in purely commercial settings. Subsidised energy prices in Bangladesh further exacerbate this market failure. Furthermore, there are information asymmetries on the latest available energy efficient technologies as a result of extant trade barriers. Most energy efficient equipment is developed and marketed for industries in developed countries, and therefore producers in Bangladesh have limited access to the information on their utility and applicability. Bangladesh's Energy Efficiency and Conservation Master Plan up to 2030 highlighted the incentive program to promote energy efficient equipment as one of key actions to address these market failures.

Choosing the financing instrument

JICA is providing loans to the Government of Bangladesh in two phases (including the cost for consultancy services):

- Phase 1: JPY 11,988 million (approximately USD 87 million; 0.01% interest rate, 40-year tenure with 10-year grace period)
- Phase 2: JPY 20,076 million (approximately USD 145 million¹) 0.90% interest rate, 30-year tenure with 10-year grace period).

The process is designed as a two-step loan (TSL): JICA provides finance to GoB institutions (IDCOL and BIFFL), which is then lent to private sector end-users (sub-project owners). The typical terms of the loan from IDCOL/BIFFL to the end-users have a 4–7% of the interest rate and repayment period up to 10 years. These loans are only eligible for the procurement of eligible energy efficient equipment.

¹ At exchange rates on 22/08/2022.

Sub-projects are assessed for their eligibility for financing based on a Business Process Manual, as well as a pre-defined list of eligible equipment from which applicants can choose the financeable equipment. If a sub-project includes components that are not eligible for financing from JICA (for example, building/expanding factories, or auxiliary equipment) the partner financial institution, IDCOL/BIFFL, helps applicants arrange commercial finance to be blended with JICA finance to complete the sub-project.

Investment in efficiency is often dependent on parallel investment in conventional equipment and construction. The project therefore takes a tailored financing approach, whereby investment in energy efficiency is supported directly with loans financed by the project, whilst indirectly helping to mobilise wider associated investment (for example construction and renovation of buildings) through commercial channels, supported by the Government of Bangladesh.

Co-ordination and governance

SREDA is a government entity responsible for promoting renewable energy and energy efficiency in Bangladesh, and is responsible for the project's technical aspects, including sub-project eligibility. IDCOL and BIFFL are responsible for the financial process. Industries that are interested in securing project loans consult with IDCOL or BIFFL, who share technical information with SREDA, which then checks the technical eligibility. SREDA then issues a no objection certificate for the lending procedure.

JICA also provides technical assistance to SREDA to support capacity building for the operation of the project, as one of SREDA's major policy programs. Specifically, the technical assistance supports SREDA through learning on energy efficient technologies, establishing procedures for energy audit, monitoring energy saving impacts and calculating intensity improvement, and to create a platform within SREDA with business and academia active in energy efficiency.

Monitoring, evaluation, and exit

For each sub-project, a periodical energy audit is carried out to confirm that energy efficiency of production (energy consumption / output) has improved, comparing to the status before the installation of the energy efficient equipment under the project. In addition, sub-project owners report energy and production data online quarterly.