

## Use of Output-Based Aid (OBA) approaches for energy access projects: Summary table

The table below is based in a review of 30 OBA schemes in the energy sector carried out for a World Bank publication (Mumssen et al. *Output-based aid: Lessons Learned and Best Practices* . 2010). The table summarizes main design elements, indicating the predominant technologies and business models that have been used for off-grid, mini-grid and grid applications.

Type of system	Predominant application	Technologies	Business models	Main use of subsidy	Outputs to trigger subsidy disbursement	Timing of subsidy disbursement	Project examples (World Bank/ GPOBA)
Off-grid systems	Individual systems for rural electrification	PV-SHS, wind, pico hydro, biogas digester	<b>Dealer model</b> : consumers own the stand-alone system and private dealers (company or NGO) sell systems on a cash or credit basis in the open market. Usually requires <u>accreditation</u> of dealers and establishment of <u>microfinance</u> support system	Capital cost buy-down		One-off: upon verification of installation	Bangladesh Rural Electrification and Renewable Energy Development Project (P112963, P126724); Nicaragua off-grid rural electrification project, PERZA (P073246); Ghana Solar PV systems to increase access to electricity services (P105651); Sri Lanka Renewable Energy for Rural Economic Development (P076702)/ Energy Services Delivery (P010498); Bangladesh Rural Electrification and Renewable Energy - Phase I (P119549)
			<b>Fee-for service model</b> : Public or private organizations retain ownership of the systems and provide electricity services for a fee. Two sub-models: (i) ESCO model - concessions, (ii) leasing or hire-purchase model. Pre-financing prior to output delivery funded by ESCO, but longer term ESCO financing needs to come from government or multilateral sources.	Capital cost buy-down, reduction of monthly payment in line with users' ability to pay	Installation of functioning off-grid unit	One-off and ongoing components	
		PV market development	<b>Medium-term service contract model (MSC)</b> : Hybrid between dealer and fee-for service models. In service area, exclusive access to project subsidies ends three to four years after installation, at which time users and suppliers may graduate to open competition	Capital cost buy-down, monthly payments	Installation of off-grid unit, service delivery and maintenance	A portion of subsidy is disbursed against activities promoting market development on the local microlevel-for long-term sustainability and market growth	Bolivia Decentralized Infrastructure for Rural Transformation, IDTR (P073367)
Mini-grid systems	Use has been limited	mini-hydro, mini diesel systems	<b>Public-private partnership in the form of concession contracts</b> : the service provider has exclusive rights to generate, distribute, and sell electricity in the concession area	Capital cost buy-down	Construction milestones, installed capacity, connection of new customers	One-off subsidies for connections; x % early (e.g. against installation of turbines and grid)/ y% later against connections and service quality	Nicaragua Off-grid Rural Electrification Project, PERZA (P073246), Bangladesh Rural Electrification and Renewable Energy - Phase II (P119547)
Grid systems	Grid-based extensions in urban and peri-urban areas, rural grid-based schemes	grid connections	Support provided through existing companies that hold (exclusive) distribution rights in the project area	Buy-down cost of connection, both from the meter to the HH (e.g. internal wiring) and from the meter to the distribution grid	Functioning connection; connection + EE measures (e.g. provision of CFLs)	One-off subsidies upon verification of connection; a small portion of subsidies disbursed after proving satisfactory service provision	Armenia Access to Gas & Heat Supply for Poor Urban Households Project (P103071), Improved electricity access of Indian Slum Dwellers (P104649), Ethiopia Electricity Access Rural Expansion Project II (P101556), Guatemala Rural Electrification Plan (P112651), Colombia Natural Gas distribution for Low Income Families in the Caribbean Coast, Senegal Electricity Services for Rural Areas (P085708)
						Transitional and ongoing output-based subsidies	Tajikistan Pamir Private Power Project (P075256, P105727), Philippines Non-Grid Power Supply project (P090238)