



Operation Number: **BO-L1050**
Year- PMR Cycle: **First period Jan-Jun 2016**
Last Update: **10/3/2016**
PMR Validation Stage: **Validated by Chief of Operations**

Chief of Operations validation date: **10/16/2016**
Division Chief validation date:
Country Representative validation date:

Inter-American Development Bank - IDB
Office of Strategic Planning and Development Effectiveness

Operation Profile

Basic Data

| | | | |
|------------------------|--|-----------------------------------|---|
| Operation name: | Rural Electrification Program | Loan Number: | 2460/BL-BO |
| Executing Agency (EA): | Vice-Ministerio de Electricidad y Energi as Alternativas | | |
| Team Leader: | Ballon Lopez,Sergio Enrique | Sector/Subsector: | RURAL ELECTRIFICATION |
| Operation Type: | Loan Operation | Overall Stage: | Disbursing (From eligibility until all the Operations are closed) |
| Lending Instrument: | Investment Loan | Country: | BOLIVIA |
| Borrower: | REPUBLICA DE BOLIVIA | Convergence related Operation(s): | |

Total Cost and Source

| | Original IDB | Current Active IDB | Local Counterpart | Co-Financing/Country | Total operation cost - Original Estimate |
|----------|-----------------|--------------------|-------------------|----------------------|--|
| BO-L1050 | \$60,000,000.00 | \$59,286,981.87 | \$200,000.00 | | \$60,200,000.00 |

Available Funds (US\$)

| | Current IDB | Disb. Amount to Date | % Disbursed | Undisbursed Balance |
|----------|-----------------|----------------------|-------------|---------------------|
| BO-L1050 | \$59,272,981.87 | \$57,205,557.61 | 96.51% | \$2,067,424.26 |

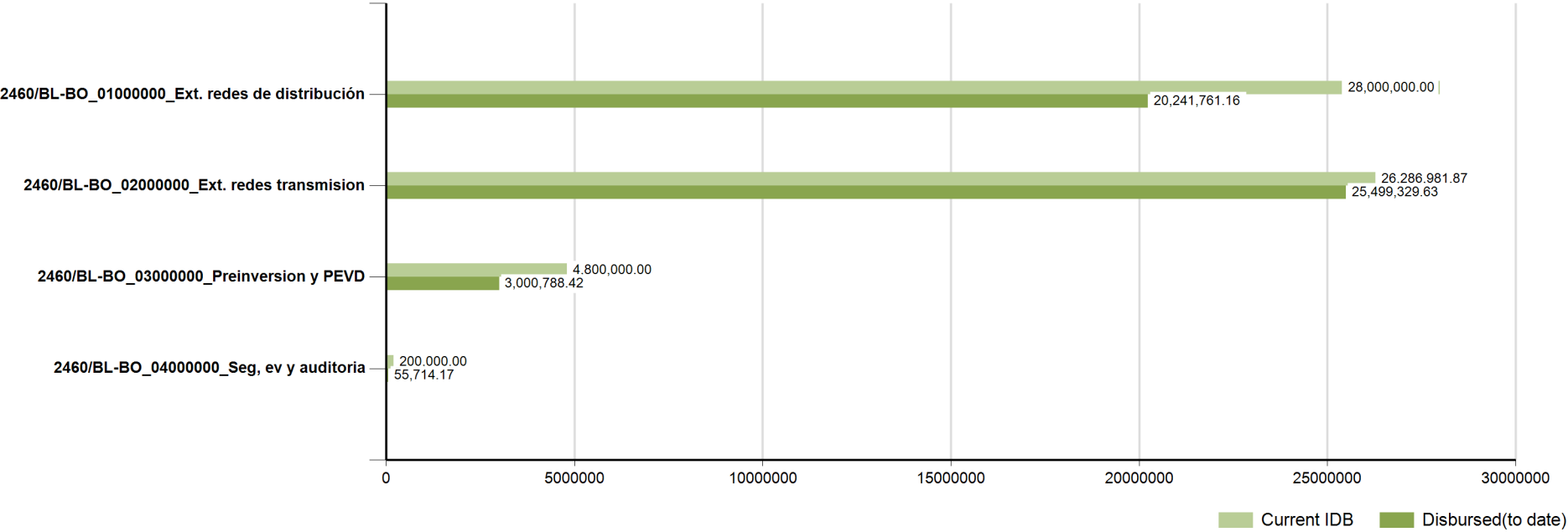
Environmental and Social Safeguards

| | |
|---|---|
| Main Operation | |
| Impacts Category: | B |
| Safeguard Performance Rating: | |
| Safeguard Performance Rating - Rationale: | |

Reformulation Information

| | |
|---|----|
| Main Operation | |
| Was/Were the objective(s) of this operation reformulated? | NO |
| Date of approval: | |

Expense Categories by Loan Contract (cumulative values)



Results Matrix

Impacts

No information related to this operation.

Outcomes

| Outcome: | 1 Cobertura de servicio eléctrico en las áreas rurales incrementada. | | | | | | | | | | | | |
|--|--|-----------------|----------|---------------|---|---|------|------|----------|-----------|-----------|-----------|-----------|
| Observation: | | | | | | | | | | | | | |
| Indicators | Flags* | Unit of Measure | Baseline | Baseline Year | Means of verification | Observations | 2012 | 2013 | 2014 | 2015 | 2016 | EOP | |
| 1.1 Incremento de la cobertura del servicio en el área rural | | Porcentaje | 0.00 | 2011 | Los operadores eléctricos de las zonas a intervenir serán las fuentes de verificación | Se estima que existen un millon de hogares, y que cada 10.000 conexiones incrementan en 1% la cobertura. Esta proyección esta sujeta a confirmación. | P | 0.00 | 0.70 | 1.00 | 1.00 | 0.80 | 3.50 |
| | | | | | | | P(a) | 0.00 | 0.00 | 0.00 | 0.00 | 3.58 | 3.58 |
| | | | | | | | A | | 0.00 | | 0.00 | | |
| | | | | | | | | | | | | | |
| 1.2 Número de hogares conectados a la red eléctrica en áreas rurales | | Unidad | 0.00 | 2011 | El operador eléctrico de la zona será la fuente de información | El Vice Ministerio de Electricidad y Energías Alternativas, deberá promover y desarrollar programas para incentivar la conexión de la población a los sistemas de electrificación rural extendidos. | P | 0.00 | 7,000.00 | 10,000.00 | 10,000.00 | 8,000.00 | 35,000.00 |
| | | | | | | | P(a) | 0.00 | 0.00 | 0.00 | 0.00 | 21,500.00 | 21,500.00 |
| | | | | | | | A | | 0.00 | | 0.00 | 5,008.00 | |
| | | | | | | | | | | | | | |

| 1.3 Consumo de energía eléctrica en los hogares beneficiados (kWh/mes) | | kWh/mes | 0.00 | 2011 | Datos del opersdor de acuerdo a zona geográfica de intervenció n. | Se espera un consum o mínimo de 20 kWh/me s en los hogares benefici ados. | P | | | | 20.00 | | 20.00 |
|---|---|-----------------------|----------|----------------|---|---|------|------|------|------|-------|-------|-------|
| | | | | | | | P(a) | | | | 0.00 | 20.00 | 20.00 |
| | | | | | | | A | | | | 0.00 | 0.00 | |
| | | | | | | | | | | | | | |
| Outco me: | 2 Servicio eléctrico en los sistemas aislados incrementados. | | | | | | | | | | | | |
| Observ ation: | | | | | | | | | | | | | |
| Indicators | Flags* | Unit of Measure | Baseline | Baselin e Year | Means of verificatio n | Observ ations | 2012 | 2013 | 2014 | 2015 | 2016 | EOP | |
| | | | | | | | | | | | | | |
| 2.1 Horas de servicio por día en los sistemas aislados que seran conectados al SIN a traves de lineas de transmision. | | horas de servicio/día | 5.00 | 2011 | Informació n proporcion ada por ENDE. | La línea de base e indicado res hasta 2012 es de 5-20 horas. | P | | | | 24.00 | 24.00 | |
| | | | | | | | P(a) | | | | 24.00 | 24.00 | |
| | | | | | | | A | | | 0.00 | 0.00 | | |
| 2.2 Consumo anual de diesel en Sistemas Aislados. | | miles de litros / año | 2,630.00 | 2011 | Empresa Nacional de electricidad , VMEEA y la Autoridad Eléctrica | | P | | | 0.00 | | 0.00 | |
| | | | | | | | P(a) | | | 0.00 | | 0.00 | |
| | | | | | | | A | | | 0.00 | | | |
| Outco me: | 3 Caídas de tensión en la línea de transmisión Sucre-Padilla disminuidas. | | | | | | | | | | | | |
| Observ ation: | | | | | | | | | | | | | |
| Indicators | Flags* | Unit of Measure | Baseline | Baselin e Year | Means of verificatio n | Observ ations | 2012 | 2013 | 2014 | 2015 | 2016 | EOP | |
| | | | | | | | | | | | | | |
| 3.1 Máxima caída de tensión. | | porcentaje | 10.72 | 2010 | Informació n de CESSA/EN DE. | | P | | | 3.00 | | 3.00 | |
| | | | | | | | P(a) | | | 3.00 | | 3.00 | |
| | | | | | | | A | | | 0.00 | | | |

| | | | | | | | | | | | | | |
|---|--|--------------------|-------|------|---|---|------|--|--|--|-------|--|-------|
| 3.2 Frecuencia de las interrupciones de la Línea Sucre-Padilla (numero/año) | | Interrupciones/año | 22.00 | 2010 | CESSA/ENDE. | Metas adecuadas de acuerdo al reglamento de calidad de distribución del Comité Nacional de Distribución de Carga, para el régimen operativo | P | | | | 6.00 | | 6.00 |
| | | | | | | | P(a) | | | | 6.00 | | 6.00 |
| | | | | | | | A | | | | 0.00 | | |
| | | | | | | | | | | | | | |
| 3.3 Duración de las interrupciones de la Línea Sucre-Padilla existente. | | horas/año | 40.00 | 2010 | La Meta FDP deberá adecuarse al reglamento de la nueva Ley de Electricidad, actualmente en discusión. | | P | | | | 12.00 | | 12.00 |
| | | | | | | | P(a) | | | | 12.00 | | 12.00 |
| | | | | | | | A | | | | 0.00 | | |
| | | | | | | | | | | | | | |

-  RF - Contribution
-  RF - Alignment
-  RF - Strategic Alignment
-  RF - Strategic Alignment during Execution
-  SI - Sector Indicator
-  CI - Country Indicator
-  PG - Pro-Gender
-  PE - Pro-Ethnicity

Outputs: Annual Physical and Financial Progress

| Extensión de Redes de Distribución. | | Physical Progress | | | Financial Progress | | |
|---|--|-------------------|--------|----------|--------------------|--------------|---------------|
| Outputs | Unit of Measure | 2016 | | EOP | 2016 | | EOP |
| Kilómetros de línea de distribución instalada | Electricity transmission and distribution lines (km) | P | | 2,750.00 | P | | 25,400,000.00 |
| | | P(a) | 100.25 | 3,000.00 | P(a) | 9,498,103.76 | 28,142,712.03 |
| | | A | 591.58 | 3,491.33 | A | 1,753,216.91 | 20,397,825.18 |
| Línea de distribución monofásica convertida a línea de distribución trifásica. | Electricity transmission and distribution lines (km) | P | 0.00 | 250.00 | P | 0.00 | 2,800,000.00 |
| | | P(a) | 0.00 | 0.00 | P(a) | 0.00 | 0.00 |
| | | A | | 0.00 | A | | 0.00 |
| Extensión de Redes de Transmisión. | | Physical Progress | | | Financial Progress | | |
| Outputs | Unit of Measure | 2016 | | EOP | 2016 | | EOP |
| Líneas de transmisión construidas en el Sistema Interconectado Nacional. | Electricity transmission and distribution lines (km) | P | 120.00 | 240.00 | P | 4,313,410.00 | 27,000,000.00 |
| | | P(a) | 0.00 | 238.60 | P(a) | 4,474,685.11 | 34,021,338.37 |
| | | A | 0.00 | 238.60 | A | 2,251,493.67 | 31,798,146.93 |
| Preinversión y Apoyo al Programa Electricidad para vivir con Dignidad. | | Physical Progress | | | Financial Progress | | |
| Outputs | Unit of Measure | 2016 | | EOP | 2016 | | EOP |
| Manuales para la elaboración y evaluación de proyectos de electrificación rural diseñados y publicados. | manuales | P | 0.00 | 1.00 | P | 0.00 | 50,000.00 |
| | | P(a) | 0.00 | 1.00 | P(a) | 0.00 | 12,020.23 |
| | | A | 0.00 | 1.00 | A | 0.00 | 12,020.23 |
| Personal técnico capacitado en el uso de nuevos manuales y procedimientos. | personas | P | 0.00 | 120.00 | P | 0.00 | 50,000.00 |
| | | P(a) | 60.00 | 120.00 | P(a) | 7,792.50 | 19,373.18 |
| | | A | 0.00 | 60.00 | A | 0.00 | 11,580.68 |
| Estructura institucional, operativa y financiera del Programa Electricidad para Vivir con Dignidad instalada. | estructura instalada | P | 0.00 | 1.00 | P | 0.00 | 50,000.00 |
| | | P(a) | 1.00 | 1.00 | P(a) | 5,714.29 | 7,142.86 |
| | | A | 0.00 | 0.00 | A | 0.00 | 1,428.57 |
| En Base a los datos del Censo 2012. Diagnostico de Electrificación Rural con Tecnologia Fotovoltaica | Convenio firmado | P | 0.00 | 1.00 | P | 0.00 | 50,000.00 |
| | | P(a) | 0.00 | 1.00 | P(a) | 0.00 | 23,942.00 |
| | | A | 0.00 | 1.00 | A | 0.00 | 23,942.00 |
| Proyectos piloto con energías alternativas financiados. | proyectos piloto | P | 0.00 | 3.00 | P | 0.00 | 2,535,250.00 |
| | | P(a) | 1.00 | 4.00 | P(a) | 1,415,051.30 | 2,275,760.27 |
| | | A | 0.00 | 3.00 | A | 0.00 | 860,708.97 |
| Eventos de concientización social sobre el uso eficiente de la electricidad y la mitigación de los impactos sociales que pudiese generar el acceso a electricidad en las comunidades beneficiarias. | N° de eventos | P | 2.00 | 6.00 | P | 34,000.00 | 100,000.00 |
| | | P(a) | 3.00 | 6.00 | P(a) | 7,908.00 | 18,586.01 |
| | | A | 0.00 | 3.00 | A | 0.00 | 10,678.01 |
| Base de datos detallada sobre costos unitarios para la elaboración de proyectos de electrificación rural. | base de datos | P | 0.00 | 1.00 | P | 0.00 | 50,000.00 |
| | | P(a) | 0.00 | 1.00 | P(a) | 0.00 | 1,749.27 |
| | | A | 0.00 | 1.00 | A | 0.00 | 1,749.27 |
| Norma Boliviana para construcción de redes rurales de baja y media tensión elaborada. | norma | P | 0.00 | 1.00 | P | 0.00 | 50,000.00 |
| | | P(a) | 0.00 | 1.00 | P(a) | 0.00 | 10,495.64 |
| | | A | 0.00 | 1.00 | A | 0.00 | 10,495.64 |
| Talleres de apoyo al Programa | N° talleres | P | 0.00 | 4.00 | P | 0.00 | 100,000.00 |
| | | P(a) | 1.00 | 5.00 | P(a) | 13,322.49 | 39,192.62 |
| | | A | 0.00 | 4.00 | A | 0.00 | 25,870.13 |
| Tematica Energía - Evaluación del Impacto en la Implementación de los Programas del PEVD | Programa | P | | 0.00 | P | | 0.00 |
| | | P(a) | 1.00 | 1.00 | P(a) | 22,780.09 | 22,780.09 |
| | | A | 0.00 | 0.00 | A | 0.00 | 0.00 |

| | | | | | | | |
|--|-----------|------|------|------|------|------------|------------|
| Elaboración del marco de planificación de pueblos indígenas y reasentamiento voluntario y uso de servidumbres. | Documento | P | | 0.00 | P | | 0.00 |
| | | P(a) | | 1.00 | P(a) | | 8,163.27 |
| | | A | | 1.00 | A | | 8,163.27 |
| Salvaguardas de Medio Ambiente - IDTR fase II | Documento | P | | 0.00 | P | | 0.00 |
| | | P(a) | | 1.00 | P(a) | | 8,163.27 |
| | | A | | 1.00 | A | | 8,163.27 |
| Consultoría de Apoyo Para la Preparación de las Condiciones Iniciales y el Inicio de la Ejecución del Programa de Electrificación Rural Con Energías Renovables (BO-X1013) | Documento | P | | 0.00 | P | | 0.00 |
| | | P(a) | | 0.00 | P(a) | | 8,746.36 |
| | | A | | 1.00 | A | | 8,746.36 |
| Consultoría: "Diseño Final de Una Planta Solar Fotovoltaica de 20 MW en el Departamento de Oruro" | Documento | P | | 0.00 | P | | 0.00 |
| | | P(a) | 1.00 | 1.00 | P(a) | 167,889.36 | 267,421.32 |
| | | A | 0.00 | 0.00 | A | 70,198.12 | 169,730.08 |
| Programa de regularización de operadores rurales no registrados elaborado. | programa | P | 0.00 | 1.00 | P | 0.00 | 50,000.00 |
| | | P(a) | 0.00 | 0.00 | P(a) | 0.00 | 0.00 |
| | | A | | 0.00 | A | | 0.00 |
| Consultoría: "Diagnostico para la electrificación rural en el área dispersa con tecnología fotovoltaica en base a datos del censo 2012" | Documento | P | | 0.00 | P | | 0.00 |
| | | P(a) | | 0.00 | P(a) | | 0.00 |
| | | A | | 1.00 | A | | 25,145.13 |

| Other Cost | | | 2016 | Cost |
|--------------------------|------|--|-----------------|-----------------|
| Administración y gestión | P | | \$243,280.00 | \$1,914,650.00 |
| | P(a) | | \$530,038.41 | \$2,241,768.73 |
| | A | | \$265,799.68 | \$1,977,530.00 |
| Total Cost | | | 2016 | Total Cost |
| | P | | \$4,590,690.00 | \$60,199,900.00 |
| | P(a) | | \$16,143,285.31 | \$67,154,500.65 |
| | A | | \$4,340,708.38 | \$55,351,923.72 |

Changes to the Matrix

No information related to this operation.

Please note that the Overall Stage represents the stage of the operation at the time of this report's publication, which might not necessarily match the stage of the operation during the PMR Cycle to which the report pertains.