

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PANAMA

PUBLIC UTILITIES SUSTAINABLE DEVELOPMENT SUPPORT PROGRAM

(PN-L1145)

LOAN PROPOSAL

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ABBREVIATIONS

ACP	Autoridad del Canal de Panamá [Panama Canal Authority]
AMP	Área Metropolitana de la Ciudad de Panamá [Metropolitan Area of Panama City]
ASEP	Autoridad Nacional de los Servicios Públicos [National Public Utilities Authority]
CONADES	Consejo Nacional para el Desarrollo Sostenible [National Council for Sustainable Development]
CONAGUA	Consejo Nacional del Agua [National Water Council]
DISAPAS	Dirección del Subsector de Agua Potable y Alcantarillado Sanitario [Water Supply and Sanitary Sewerage Subsector Division]
ECLAC	Economic Commission for Latin America and the Caribbean
ETESA	Empresa Estatal de Transmisión Eléctrica [State Electricity Transmission Company]
FECASALC	Fondo Español de Cooperación para Agua y Saneamiento en América Latina y el Caribe [Spanish Cooperation Fund for Water and Sanitation in Latin America and the Caribbean]
FET	Fondo de Estabilización Tarifaria [Rate Stabilization Fund]
GHG	Greenhouse gas
IDAAN	Instituto de Acueductos y Alcantarillados Nacionales [National Water and Sanitation Administration]
INEC	Instituto Nacional de Estadística y Censo [National Institute of Statistics and Census]
IRR	Internal rate of return
JAAR	Junta Administradora de Acueductos Rurales [Rural Water Supply Management Board]
LNG	Liquefied natural gas
LPG	Liquefied petroleum gas
MEF	Ministry of Economy and Finance
MER	Mercado Eléctrico Regional [Regional electricity market]
MiAMBIENTE	Ministry of the Environment
MINSa	Ministry of Health
MMT	Millions of tons
MW	Megawatts
NPV	Net present value
NPVe	Economic net present value
NPVf	Financial net present value
O&M	Operation and maintenance
PBP	Programmatic policy-based loan
PEN	Plan Energético Nacional [National Energy Plan]
PNSH	Plan Nacional de Seguridad Hídrica [National Hydrological Security Plan]
PUP	IDB Public Utilities Policy
SICA	Sistema de Integración Centroamericana [Central American Integration System]
SIEPAC	Sistema de Interconexión Eléctrica de los Países de América Central [Central American Electrical Interconnection System]
SIN	Sistema Interconectado Nacional [National Interconnected System]

SNE	Secretaría Nacional de Energía [National Energy Department]
SNT	Sistema Nacional de Transmisión [National Transmission System]
UCPSP	Unidad Coordinadora del Programa de Saneamiento de Panamá [Panama Sanitation Program Coordination Unit]
UREE	Uso Racional y Eficiente de la Energía [Rational and efficient energy use]
W&S	Agua y Saneamiento [Water and Sanitation]

PROJECT SUMMARY

PANAMA PUBLIC UTILITIES SUSTAINABLE DEVELOPMENT SUPPORT PROGRAM (PN-L1145)

Financial Terms and Conditions				
Borrower: Republic of Panama			Flexible Financing Facility^(a)	
			Amortization period:	20 years
Executing agency: Ministry of Economy and Finance (MEF)			Original WAL:	12.75 years ^(b)
			Disbursement period:	1 year
			Grace period:	3 years
Source	Amount (US\$)	%	Inspection and supervision fee:	^(c)
IDB (Ordinary Capital-OC)	300,000,000	100	Interest rate:	LIBOR-based
Total	300,000,000	100	Credit fee:	^(c)
			Currency of approval:	U.S. dollars from the OC
Project at a Glance				
<p>Project objective/description: The program's overall objective is to contribute to the sustainability of the energy sector and to increased coverage and improved management of water supply and sanitation (W&S) services, through a series of policy reforms aimed at strengthening and complementing the regulatory and institutional framework of the energy and W&S sectors. The specific objectives are to: (i) improve energy security through energy matrix diversification, energy efficiency, and regional integration; (ii) improve the financial and social sustainability of the energy sector and ease the fiscal burden, by reducing the cost of subsidies in the sector and targeting them more effectively; (iii) strengthen institutions in the areas of energy planning and purchasing; and (iv) improve interagency coordination in the W&S sector, with defined strategic planning and clear assignment of roles in all sector agencies.</p> <p>This loan operation is the first of two operations that are technically linked to each other and financed independently under the programmatic policy-based loan modality.</p>				
<p>Special contractual conditions precedent to the single disbursement of the loan proceeds: Disbursement of the loan proceeds from the Bank will be subject to fulfillment of the policy reform commitments described in the program components and set out in the Policy Matrix (Annex II), in addition to compliance with the other conditions established in the loan contract (paragraph 3.2).</p>				
Exceptions to Bank policies: None				
Strategic Alignment				
Challenges:^(d)	SI	<input checked="" type="checkbox"/>	PI	<input checked="" type="checkbox"/>
Crosscutting themes:^(e)	GD	<input type="checkbox"/>	CC	<input checked="" type="checkbox"/>
			IC	<input checked="" type="checkbox"/>

^(a) Under the terms of the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes in the amortization schedule as well as currency and interest rate conversions. The Bank will take operational and risk management considerations into account when reviewing such requests.

^(b) The original weighted average life (WAL) of the loan may be shorter, depending on the effective signature date of the loan contract.

^(c) The credit fee and the inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with relevant policies.

^(d) SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).).

^(e) GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

I. DESCRIPTION AND RESULTS MONITORING

A. Background, problem addressed, rationale

- 1.1 **Macroeconomic situation.** Panama had the fastest growing economy in Latin America and the Caribbean between 2010 and 2016, expanding at an annual average rate of 7.2%.¹ This growth was mainly driven by the increase in aggregate investment, which grew from 23% of gross domestic product (GDP) in 2010 to roughly 26.2% in 2016. This economic performance, supported by actions in the fiscal, financial, and trade areas, enabled Panama to broaden its integration into the global economy and obtain an investment grade rating, gaining strength as an important financial, logistics, and trade hub, with access to external sources of financing. Energy has recently been one of the fastest growing sectors of the Panamanian economy, with its share of GDP expanding from 2.9% in 2007 to 4.0% in 2016, based on power generation and electric energy sales. Panama currently does not produce hydrocarbons, so its petroleum products are wholly obtained from abroad. In 2015, it imported about 26 million barrels of oil² at a cost of around US\$4.3 billion (9% of GDP).
- 1.2 **Socioeconomic context.** Panama's rapid economic growth has coincided with an increase in demand for core services. Energy demand increased by an annual average of 5.8% in the last four years, resulting in a significant increase in energy generation and imports. In the case of water, demand increased by 3.6% in the same period, but supply has recently been hindered by factors related to the electric power system and its relationship with water treatment plants, compounded by weather phenomena such as droughts. In addition to these quality problems, although the coverage of both services (energy and water) exceeds 90% nationally, in some rural areas and indigenous reserves (*comarcas*), coverage is around 71.4% for energy³ and 78% for water.⁴ This inequity of access is one of the factors that may be driving the high level of inequality between urban and rural areas.
- 1.3 **Regulatory framework and organization of the energy sector.** The energy sector is regulated by Law 6 of 1997, which defines the regulatory and institutional framework for providing the public electricity service. The entity responsible for formulating the sector's policies is the National Energy Department (SNE). The electricity subsector is regulated by the National Public Utilities Authority (ASEP). Law 8 of 1987 and Cabinet Decree 36 of 2003 specify the policies, conditions, and entities responsible for the regulation and control of the hydrocarbons subsector, involving several entities such as the SNE, the Ministry of Trade and Industries, and the Consumer Protection and Defense of Competition Authority. Law 41 of 2012 establishes the framework for fostering power generation based on natural gas. The natural gas market does not yet have specific regulations for its storage, transportation, and marketing. In terms of renewable energy, Law 45 of 2004, along with its regulations and subsequent amendments, provides a system of incentives to foster hydroelectric generation and other sources of renewable

¹ National Institute of Statistics and Census (INEC).

² Central America and Dominican Republic: Hydrocarbon Statistics (ECLAC 2016).

³ IDB. Technical note on the energy sector, Panama (2015).

⁴ IDB. Technical note on the water and sanitation sector, Panama (2015).

energy. Law 37 of 10 June 2013 establishes the system of incentives to foster the construction, operation, and maintenance of solar plants and/or facilities. Law 44 of 25 April 2011 (Wind Law) establishes the system of incentives to promote the construction and exploitation of wind energy plants. It was amended by Law 18 of 26 March 2013 and Law 42 of 20 April 2011, which establish guidelines for the national biofuel- and biomass-based electricity policy. In the area of energy efficiency, Law 69 of 2012 establishes national policy guidelines for Rational and Efficient Energy Use (UREE) and gave rise to the UREE Fund.⁵ The Rural Electrification Office, attached to the Ministry of the Office of the President, is responsible for expanding electrification into rural areas that are not served and not under concession.

- 1.4 **Regulatory framework and organization of the W&S sector.** Decree Law 2 of 27 January 1997 establishes the institutional and regulatory framework for W&S service delivery, assigning regulatory and sector planning functions and responsibilities to the Ministry of Health (MINSa) through the Water Supply and Sanitary Sewerage Subsector Division (DISAPAS). The law assigns regulation and inspection functions to ASEP, and makes the National Water and Sanitation Administration (IDAA) responsible for the delivery of W&S services to communities with more than 1,500 inhabitants. The Rural Water Supply Management Boards (JAARs) provide the service to communities of fewer than 1,500 inhabitants, with technical assistance from the Ministry of Health (MINSa). Under Executive Decree 18 of 3 March 2016, the Panama Sanitation Program Coordination Unit (UCPSP), attached to MINSa, was tasked with executing and operating sanitation works throughout the country and was assigned responsibility for the main infrastructure of the sanitary sewerage system in the Panama City Metropolitan Area (AMP), encompassing the districts of Panama, San Miguelito, Arraiján, and La Chorrera, which it now manages and operates. Other key actors are the Ministry of Economy and Finance (MEF), which allocates financial resources and subsidies to the sector; the Ministry of the Environment (MiAmbiente), the apex agency for water, which regulates the use of the resource and protects it for W&S; and the National Council for Sustainable Development (CONADES), the executing agency of urban and rural W&S projects.
- 1.5 **The energy sector.** In 2014, Panama's energy matrix was 67% petroleum products, mainly imported liquid fossil fuels, 26% renewable energy, mainly hydro, and 7% coal.⁶ The transportation sector was the main energy consumer (42%), followed by the industrial (25%), residential (16%), commercial (15%), and other sectors (2%).⁷ The country's total carbon dioxide (CO₂) emissions in that year stood at 10 million tons (MMT) of CO₂, which represents an increase of more than 30% in the last five years and makes Panama the largest emitter of greenhouse gases (GHG) per capita⁸ among the countries comprising the Central American Integration System (SICA). The transportation sector contributed 49% of these emissions and the energy sector, 17%, of which the electricity subsector accounted for 19%.

⁵ The UREE Fund does not yet have capital allocated to enable it to start operations.

⁶ SNE, National Energy Balance 2014.

⁷ Includes agro-fishing and mining, and the public sector.

⁸ <http://www.indexmundi.com/es/datos/indicadores/EN.ATM.CO2E.PC>.

- 1.6 **The electricity subsector.** In 2015, a total of 9,626 GWh were generated, nearly all of which came from private power plants (91%) and 0.2% from imports from the Central American Electrical Interconnection System (SIEPAC). Of total power generated, 57.7% was hydroelectric; 34.0%, thermal (coal and diesel); 6.7%, wind; and 1.4%, solar. The 2015-2050 National Energy Plan (PEN) estimates that with annual growth of 5.2%, national electricity demand could double in the next 10 years, approaching 19,000 GWh,⁹ and it could attain a level of 56,000 GWh by 2050, almost six times the demand in 2014.¹⁰ The growth in demand (paragraph 1.2) is due to greater use of installed productive capacity, expansion of the Canal and its related activities, and greater consumption by households and economic activities driven by population growth. The significant increase in projected demand and the high share of hydropower in the energy matrix¹¹ generate the need to improve management of the resources by diversifying the matrix with low GHG emissions sources and promoting demand-side management measures, e.g. efficient energy use.
- 1.7 The National Transmission System (SNT) is responsible for the Empresa Estatal de Transmisión Eléctrica (ETESA). In 2015 the SNT consisted of 2,103 kilometers of 230-kV double circuit lines, and 306 kilometers at 115kV. The SNT has limitations that affect hydroelectric power transportation, thereby impeding economic dispatch. Given the expected growth in demand, ETESA identifies and executes the SNT's new expansion and reinforcement projects required to guarantee national supply and encourage an increase in regional exchanges. In 2016 and 2017, ETESA executed works for the third transmission line, which will improve the SNT's capacity and reliability and will enable the country to comply with the commitments to strengthen the SNT in the context of SIEPAC. The National Dispatch Center, administratively under ETESA, is responsible for administration of the electricity market.
- 1.8 Panama is one of the six countries¹² that make up the SIEPAC Regional Electricity Market (MER), through which the country covers part of its national consumption and exports its surplus. In 2015 Panama exported 140 GWh of electricity to the MER, and was the second largest exporter after Guatemala.¹³
- 1.9 The energy sector receives the most subsidies, especially electricity and liquefied petroleum gas (LPG). In 2015 direct subsidies for electricity consumption and LPG consumption came to US\$175 million and US\$85.1 million, respectively.¹⁴ The

⁹ Of these, only 1,000 MWh of energy is expected to be added by new hydroelectric plants. 2015-2050 National Hydrological Security Plan. "Water for All."

¹⁰ 2015-2050 PEN.

¹¹ The severe droughts of 2013 and 2014 forced the government to adopt stringent energy rationing measures such as a cut in working hours in State institutions, schools, and commercial establishments. These droughts raised the cost of power generation in 2015 by 25% relative to the 2014 level. This situation, coupled with the high share of oil products in Panama's electricity generation, generated marginal costs of up to US\$250/MW.

¹² Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama.

¹³ Central America and the Dominican Republic: Hydrocarbon Statistics, 2015 Economic Commission for Latin America and the Caribbean (ECLAC 2016).

¹⁴ [Informe Económico y Social 2015. MEF.](#) [Economic and Social Report 2015. MEF].

Government of Panama has initiated major efforts to structure rates¹⁵ based on efficient supply costs; and to rationalize the subsidies program by reducing the maximum subsidized consumption for electricity, targeting these and the LPG subsidies towards low-income users. Actions associated with electricity sector subsidies included the elimination in July 2015 of the Energy Compensation Fund, a financial mechanism that supported the stabilization of electricity rates and subsidized all users, including industrial and commercial ones. In addition, the subsidy benefit was limited to residential customers with consumption of less than 300 kWh/month. Nonetheless, the new consumption threshold still allows subsidies to be granted to approximately 75% of all customers. This subsidy is financed through direct transfer payments to the Rate Stabilization Fund (FET).

- 1.10 **Natural gas.** In 2015, the country conducted two competitive bidding processes to purchase power, which were awarded to natural gas-based power generation plants, as they offered the most economical options. As a result of this process, natural gas is expected to be introduced in the energy matrix starting in 2018, when a private 381-MW plant comes on stream, the energy of which will enter the National Interconnected System (SIN). This plant, which has financing from the Inter-American Investment Corporation (IIC),¹⁶ will consume natural gas from a new liquefied natural gas (LNG) regasification and storage terminal. With the arrival of natural gas in Panama, this fuel is expected to become an alternative energy source, taking advantage of current prices, availability of supply, and its lower environmental impact compared to other fossil fuels. The private LNG regasification and storage terminal, currently under construction, will have a capacity of 180,000 cubic meters, making it possible to meet the needs of the new power plant, and with additional reserve to cover other services in the country and region, acting as an energy hub. To maximize the use of the benefits and advantages of natural gas and enable the market to function, a regulatory framework is required for the importation, transportation, regasification, market design, distribution, and transformation of energy, including third-party access to facilities, price and rate setting, and the design of contracts.
- 1.11 **The W&S sector.** In 2015, the population of Panama was estimated at 3.97 million inhabitants, with 67% living in urban areas and 33% in rural areas.^{17,18} Water supply coverage in urban areas has improved significantly, expanding from 96% in 2000 to 98.2% in 2015. In rural areas, coverage increased from 72.7% to 79% in the same period. In 2015, water supply coverage nationwide averaged 93%, which is comparable to the average in Latin America and the Caribbean of 92% in 2011.¹⁹ However, countries such as Costa Rica, Mexico, and Brazil, with per capita GDPs comparable to that of Panama, have coverage rates nearing 100%.

¹⁵ Energy prices in Panama are among the highest in the region. In 2015, the industrial rate averaged US\$223/MWh, the highest in Central America for that year and well above the world average of around US\$85/MWh. [Estadísticas del subsector eléctrico de los países del Sistema de Integración Centroamericana \(SICA\), 2015.](#)

¹⁶ Loan operation 3847/CH-PN, Costa Norte Gas-fired Thermal Power Plant and LNG Terminal Project.

¹⁷ INEC. Bulletin 16.

¹⁸ [World Bank. Urban Population \(% of total\).](#)

¹⁹ Castalia. National Strategy for the W&S Sector 2014-2018.

- 1.12 The average coverage of improved sanitation²⁰ nationwide is 75%, well below rates in other countries in the region with comparable levels of GDP per capita, such as Costa Rica (95%), Mexico (85%), and Brazil (83%).²¹ Urban sanitary sewerage coverage is 59%, concentrated in the AMP (57%) to the detriment of the provinces of the interior (Bocas del Toro, 6%; Chiriquí, 16%; Coclé, 34%; and Veraguas, 35%).²² The fact that improved sanitation coverage in rural areas is only 58%²³ shows that there is a significant gap to be bridged to guarantee universal access to sanitation in Panama.
- 1.13 **Service quality nationwide.** The proportion of the Panamanian population that has access to the service and receives drinking water 24 hours a day, seven days a week (24/7) is 78% in the dry season. In urban areas, 80% of the population has 24/7 service and in rural areas, 62% does. Percentages are lower in the provinces of Chiriquí (64%), Colón (60%), Veraguas (63%), Coclé (56%), and Bocas del Toro (46%).²⁴ By 2016, the percentages of conformity with drinking water quality and pressure parameters were 91%²⁵ and 59%,^{26, 27} respectively, and the customer service system is poor.
- 1.14 While major progress has been made on W&S coverage, the general problem is that the country still needs to make major efforts to achieve universal access and close the gaps in service availability between urban and rural areas. The sector also needs to improve the quality of service delivery so that the population has 24/7 service.
- 1.15 To continue expanding coverage and improving service quality and management, the Panamanian government has prioritized the W&S sector in its Strategic Five-year Plan for 2015-2019 and has been implementing the 100/0 Basic Sanitation Plan (100% access to drinking water and zero latrines). Thus far, with funding from multilateral banks, bilateral cooperation agencies, and national treasury resources, the government has committed funding of roughly US\$3.583 billion for the 100/0 Plan, through the action plans of each of the institutions participating in the sector (UCPSP/MINSA, IDAAN, CONADES, DISAPAS/MINSA, MiAmbiente). However, broad agreement among the sector's institutions about such action plans does not necessarily exist.
- 1.16 The foregoing is associated, among other specific problems, with the weak functioning of the sector. There are shortcomings in its management in terms of interagency coordination, role assignment, and strategic planning, as well as weaknesses in the performance of its agencies, especially those responsible for governance and service delivery. Moreover, the lack of interagency coordination

²⁰ According to the Joint Monitoring Program, an improved sanitation facility hygienically separates human excreta from human contact.

²¹ Joint Monitoring Program. Progress on Sanitation and Drinking Water, 2015.

²² IDAAN. Statistical Bulletin 29, Year 2015.

²³ Joint Monitoring Program. Progress on Sanitation and Drinking Water 2015.

²⁴ IDB. Final Policy Note Report for the Water and Sanitation Sector, 2013.

²⁵ Intermittent service affects water quality. IDB Technical Note "Intermittent Supply Lessons from a Case Study in Arraiján, Panama", Nelson, Kara L.; Erickson, John.

²⁶ ASEP. IDAAN Service Quality Goals, 2016.

²⁷ IDB. Final Policy Note Report for the W&S Sector, 2013.

affects the prioritization and allocation of resources, which makes it hard to reduce geographical and socioeconomic disparities as proposed in the 100/0 Plan. In the case of service delivery, the failure to define responsibility for sanitation has hampered the execution of works to expand coverage and improve service quality.

- 1.17 **Water resources.** Panama has extraordinary hydrological wealth, sustained by average annual precipitation of 2,924 liters of rain per square meter.²⁸ In recent years, however, this scenario has been thrown into doubt by an increase in disputes over water use and the higher frequency of extreme events in the country.²⁹ Those of hydro-meteorological origin have affected the various ecosystems most, along with the most vulnerable population groups in several priority watersheds around the country. In 2015 and 2016, a severe drought caused by the El Niño Southern Oscillation phenomenon seriously affected agricultural activities, hydroelectric generation, and the passage of ships through the locks in the Panama Canal. It also disrupted water supply and quality and further eroded the quality of drinking water service delivery to the population. This demonstrates the need for greater interagency coordination and strategic planning between the sector institutions and MiAmbiente, to address these situations with a medium- and long-term perspective.
- 1.18 **Challenges facing the public utilities sectors.** The supply of electric energy and W&S as public utilities is seen by the government as fundamental for Panama's development. Expectations of medium-term economic and population growth,³⁰ improvements in competitiveness resulting from Panama's consolidation as the Hub of the Americas, and inequalities in timely and quality access to electricity and W&S services in poor communities pose significant challenges for the country in satisfying growing demand. With Bank support through various loan and technical cooperation operations, the Panamanian government has taken important steps to address these challenges and strengthen the sectors.
- 1.19 In the energy sector, steps have been taken to improve the institutional capacity of the sector's government-owned enterprises since 2010, promoting renewable energy and energy efficiency (paragraph 1.3); environmental and social management of energy projects; management, regulation, and promotion of private participation; and rationalization of subsidies in the sector. Nonetheless, the sector still faces major challenges related to: (i) weak instruments for sector investment analysis and planning; (ii) uncompetitive energy purchase contracting mechanisms that fail to encourage greater investment in generation from different sources; (iii) a vulnerable energy matrix to supply the growing demand for electricity due to heavy reliance on imported fossil fuels, with the associated price volatility; (iv) vulnerability to climate change, given the high share of hydropower in the matrix, which is reaching its maximum potential share;³¹ (v) limited application

²⁸ National Water Council. National Hydrological Security Plan 2015-2050 (PNSH) "Water for All," citing the 2015 World Bank report. The maximum of 7,000 liters per square meter is the highest value recorded for Central America.

²⁹ According to the PNSH, EM-DAT data show that Panama suffered 32 disasters between 1983 and 2008, sustaining total economic losses estimated at US\$86 million, and over 250 deaths.

³⁰ 6.2% (2017) and 1.4% (2021). MEF and INEC.

³¹ Electric power generation is the activity that requires the largest amount of water, 23% of total water available and 89.6% of its total use.

of energy efficiency practices and squandering of the country's potential to develop nonconventional renewable energy; (vi) the need for standards and regulations for the introduction and development of the natural gas market; (vii) medium- and long-term commitments with SIEPAC for transmission reinforcement and expansion;³² (viii) inefficient rate structures, high subsidies, and ineffective targeting that distort prices, thereby reducing incentives for efficient energy use; and (ix) disparities in rural electricity coverage.

- 1.20 Since 2010, through eight loan operations, four technical-cooperation operations, and an investment grant from the Spanish Cooperation Fund for Water and Sanitation in Latin America and the Caribbean (FECASALC) in the W&S sector, the Bank has been promoting actions to strengthen the performance of the institutions participating in the sector, as follows: (i) in DISAPAS/MINSA, an institutional strengthening program will be launched to improve management and coordination capacity and strategic and policy planning to complement its roles and responsibilities as the lead agency;³³ and (ii) a management information and technical-administrative management system (Enterprise Resource Planning System) is being implemented in IDAAN to streamline management and allow timely decision making. The management of its regional service structures has been strengthened through a pilot project in IDAAN's regional offices in central provinces. An IDAAN Plan of Action for 2016-2019 was prepared that sets out the objectives and actions needed for the institution to provide efficient and effective service delivery. An energy efficiency plan for electromechanical equipment to reduce costs has been developed and is being implemented; and some operation and maintenance (O&M) units have been equipped along with several regional water quality control units.
- 1.21 In addition, work continues on strengthening MINSA's Panama Sanitation Program Coordination Unit (UCPSP), in the management and O&M of the projects being undertaken in the AMP. The creation of a sector sustainability committee has been promoted at the highest government policy decision-making level, to coordinate and organize the strategic and operational planning of institutions in the W&S sector. Moreover, a strategy is being developed to promote responsible water consumption. In addition, work is under way to identify the most appropriate management model for the UCPSP, since, in addition to executing investment projects, the unit has been satisfactorily handling the O&M of the sanitary sewerage infrastructure built under the projects in the AMP, so it needs to be provided with an appropriate institutional framework. For service delivery in rural areas, MINSA is strengthening organizational structures and improving the JAARS' O&M capacities and management; and drinking water and sanitation works departments were created within the ministry's organizational structure at the regional level, and provided with personnel, equipment, and information systems.
- 1.22 As noted above, the key challenge in the W&S sector is to continue to expand drinking water and sanitation coverage throughout the country, with a special

³² The SIEPAC line was built to transfer up to 300 MW. Thus far, however, the line has been unable to operate at this capacity due to local constraints that limit power to 70 MW in some segments, thus preventing the development of the MER and firm contract transactions.

³³ IDB. Loan proposal 3799/OC-PN, Sanitation Program for the Districts of Arraiján and La Chorrera - Stage I.

emphasis on closing access gaps between urban and rural areas and guaranteeing 24/7 water supply service.³⁴ This requires, among other things, a coordinating body at the highest government policy decision-making level (Office of the President and/or Cabinet Council), to strategically plan actions, improve the performance of the sector, restructure resource allocation, and complement and follow up on all institutional strengthening³⁵ activities in the sector, especially those related to strengthening the lead agency (paragraph 1.20) and to sanitation (paragraph 1.21).

- 1.23 **Government strategy in the energy sector.** To address the challenges in the energy sector, the government has been implementing significant reforms aimed at promoting energy security and diversification of the energy matrix, through the promotion of energy efficiency, the development of renewable energy (paragraph 1.3), the introduction of natural gas (paragraph 1.10), and regional electrical interconnection, as well as improved targeting of subsidies to the sector (paragraph 1.9). With regard to planning, in 2016 the SNE issued the 2015-2050 PEN, a long-term policy agreed upon among the relevant sector actors and serving as the road map for Panama's energy policy, guided by the sector's four guiding principles: (i) universal access and poverty reduction; (ii) decarbonization of the matrix;³⁶ (iii) efficient energy use and moderation of consumption; and (iv) security of supply.
- 1.24 To move forward with the PEN and address the sector's challenges, the government is prioritizing the implementation of policy measures to: (i) strengthen the sector's institutional capacity for planning, regulating, and managing the operation, and enhancing the mechanism for long-term power purchasing from generators, so as to encourage competition between technologies; (ii) diversify the energy matrix to increase supply, while reducing dependency on hydrological sources, by promoting a competitive increase in the use of renewables, improving regulations for demand management with energy efficiency, introducing natural gas for power generation, and increasing the volume of regional exchanges; (iii) improve the energy sector's financial sustainability, by rationalizing spending on subsidies and revising the conceptual basis for them and the rate structure; and (iv) reduce the gap in access to the electricity service.
- 1.25 **Government strategy in the W&S sector.** To respond to the challenges in the W&S sector, the government has been implementing the 100/0 Basic Sanitation

³⁴ Numerous microeconomic studies (Brenneman and Kerf, 2002) document that access to W&S helps to improve health. According to a 2006 report by the United Nations Children's Fund (UNICEF), inadequate W&S is the leading cause of disease in the world. The most recent global estimates (World Health Organization, WHO 2015) indicate that access to waster and improved sanitation could prevent 361,000 annual diarrheal deaths among children under five years of age (58% of deaths from diarrhea). In this age group, major reductions in mortality from diarrhea (up to 73%) can be achieved through continuous piped water supply and sewer connections that remove excreta from households and communities (Pruss-Ustun et al., 2014).

³⁵ It is considered essential that operators focus on service delivery, while other entities govern the sector, issue the rules, and regulate services. This model has been successful in Chile, Colombia, and Peru, and to some extent in Honduras. It originates from the experience of the 1980s reforms in England (Hantke-Domas and Jouravlev (2011).

³⁶ In its Intended Nationally Determined Contribution (INDC) under the 2015 Paris Climate Agreement, Panama undertakes to increase the share of power generation from renewable sources by 30% with respect to the 2014 level by 2050.

- Plan (paragraph 1.15); strengthening DISAPAS/MINSA in its role as lead agency (paragraph 1.20); enhancing IDAAN's management capacity (paragraph 1.20); strengthening the capacity to manage investment and O&M projects and identifying a new management model for the UCPSP (paragraph 1.21); and supporting (through MINSA) the improvement of operational management and post-project technical assistance for the JAARs (paragraph 1.21). In a strategic decision for the sector aimed at addressing extreme hydro-meteorological events (drought) that affect the supply and quality of drinking water, in August 2015 the government set up a high-level commission composed of the highest authorities in the water sector (institutions from the W&S sector, environment and water resources, energy, irrigation and drainage institutions, Panama Canal Authority (ACP), and the MEF) to address the problems caused by the severe drought and to develop a National Hydrological Security Plan (PNSH), which will ensure sustainable and safe access to water for the required uses, especially for human consumption, going forward.³⁷
- 1.26 The 2015-2050 PNSH "Water for All" was approved by Cabinet Resolution 114 of 23 August 2016. It is the road map that establishes policies, thematic pillars, and a plan of action to ensure that water is available in the quantity and quality acceptable to all users, especially for human consumption. The second article of this resolution provides for the creation of the National Water Council (CONAGUA), attached to the Cabinet Council, comprising MiAmbiente, as the chair, the MEF, the Ministry of the Office of the President, the Ministry of Agricultural Development, MINSA, ASEP, the ACP and IDAAN. CONAGUA, acting through its Technical Secretariat, and organizationally attached to MiAmbiente, will promote, guide, coordinate, and guarantee the development and implementation of the PNSH.
- 1.27 The PNSH proposes interventions based on five thematic focuses of action: (i) sustained universal access to quality water and sanitation services; (ii) availability of water for inclusive economic growth; (iii) preventive management of water-related risks; (iv) healthy watersheds; and (v) water sustainability.
- 1.28 CONAGUA, acting through the PNSH, incorporates and gives a medium- and long-term perspective to the action plans included in the 100/0 Basic Sanitation Plan (paragraph 1.15) to ensure sustained universal access to quality water and sanitation services, under thematic focus 1. In this context, a series of organized actions and investments are planned, to expand the coverage of W&S, optimize the operation and service delivery of existing systems, and improve medium- and long-term strategic planning/investment prioritization tools (paragraph 1.16).
- 1.29 The Bank is also moving ahead with loan operations 3506-OC/PN, 3506/CH-PN, and 3799-OC/PN for the institutional strengthening of the UCPSP (paragraph 1.21). One achievement so far is that [MINSA and IDAAN signed a cooperation agreement](#) on 18 June 2015, pursuant to which IDAAN delegates to the UCPSP the O&M of the infrastructure that the UCPSP builds and manages in the AMP and in other areas of the country, including the districts of Arraiján and La Chorrera. The next step in this program is for the UCPSP to become the public sanitation company for the AMP. In this regard, progress is being made in drafting proposed legislation to be submitted to the Ministerial Cabinet for approval.

³⁷ CONAGUA. 2015-2050 PNSH "Water for All."

- 1.30 With the foregoing measures, the government is seeking to respond to the challenges identified in the sector (paragraph 1.22) by implementing policy measures to: (i) strengthen the sector's institutional capacity, especially in the sanitation area; and (ii) narrow the service access and quality gap.
- 1.31 **Knowledge of the sector.** The Bank has extensive experience in the sectors of public energy and W&S services in Panama. In the energy sector, through technical cooperation operations and loans, it is currently supporting: (i) the development of the legal and regulatory framework for the introduction of natural gas; (ii) rural electrification programs; (iii) regional integration through funding for SIEPAC and technical, environmental, regulatory, and financial structuring studies for the Colombia-Panama electricity interconnection; (iv) strengthening of the sector's institutions and planning; (v) identification and design of energy efficiency actions; and (vi) construction of the natural gas regasification and storage plant with support from the IIC. Over the last 10 years, the Bank has executed the following loan operations: (i) Investment and Corporate Transformation Program for ETESA - Phase I (2024/OC-PN); and (ii) Sustainable Rural Electrification Program in Panama (3166/CH-PN and 3165/OC-PN). In the same period, the Bank has provided technical support through the following technical-cooperation operations and grants: (i) Strengthening of the Mesoamerican Biofuels Program (GRT/MC-12337-PN); (ii) Final Design Studies for Small Hydroelectric Projects (ATN/OC-11606-PN); (iii) Support for the Investment and Corporate Transformation Program for ETESA (ATN/OC-10965-PN); (iv) Support for Bioenergy, Energy Efficiency, and Renewable Energy Programs (ATN/MC-11323-PN); and (v) Support for Sustainable Rural Electrification II (ATN/FG-14157-PN). In 2016, the IIC approved the operation Costa Norte Gas-fired Thermal Power Plant and LNG Terminal Project (3847/CH-PN).
- 1.32 Since 2009, the Bank has been very active in the W&S sector, formulating and executing the following operations: (i) Panama City and Bay Sanitation Project – Phase I (1719/OC-PN-1) and Phase II (3506-OC/PN and 3506/CH PN), as well as the Sanitation Program for the Districts of Arraiján and La Chorrera – Stage I (3799/OC-PN), all with the UCPSP; (ii) Unified Program for Sustainable Development of the Water and Sanitation Sector in Provinces (2025/OC PN-1 and PN-2) with CONADES; and (iii) the Multiphase Water and Sanitation Investment Program – Phases I and II (2367/OC-PN, 3002/OC-PN) with IDAAN; and the following technical-cooperation operations: (i) IDAAN Investment Prioritization Program (ATN/OC-11959-PN); (ii) Support for the IDAAN modernization component (ATN/OC-12306-PN); (iii) IDAAN Energy Efficiency Strengthening (ATN/OC-13443-PN and ATN/OC-13444-PN); and (iv) Support for the IDAAN Sector Reform and Modernization Program – Phase I (ATN/OC-14558-PN). The Rural and Indigenous Water and Sanitation Program (GRT/WS-13329-PN), with resources from FECASALC, is being implemented with DISAPAS/MINSA. These operations are helping to improve the quality of service delivery to 616,813 people in the urban area and 43,125 in rural and indigenous areas. They will also help clean up 113 kilometers of streams and rivers in the AMP, and provide wastewater treatment for 455,273 people. The situation of the sector and of IDAAN has also been analyzed, identifying the problems, challenges, and plans of action needed to advance reforms in the sector and in IDAAN.

- 1.33 The Bank has extensive experience in supporting policy reforms in the energy and W&S sectors. In the energy sector, the most recent are: Nicaragua (3068/BL-NI), Suriname (2848/OC-SU), Peru (2847/OC-PE), Honduras (3619/BL-HO), and Ecuador 3420/OC-EC). In the case of W&S, there are recent experiences in Bolivia (3667/BL-BO), Peru (3292/OC-PE), Haiti (3176/GR-HA), and Brazil (3138/OC-BR). The Project Completion Report for the Peruvian operation concludes that programmatic operations are suitable instruments to support sector reforms involving multiple actors; and that, with a diversified and sustainable energy supply, final consumers are the main beneficiaries of these interventions.
- 1.34 The program design drew on lessons learned from these operations, including the following: (i) institutional and regulatory reforms per se are insufficient to ensure the efficient operation of the sector. It is essential that the reforms be coupled with policy commitments that provide tools for effective sector management, such as sector policies, action plans, and studies; (ii) policy measures, in particular regulatory ones, will require gradual implementation; accordingly, program policy commitments were designed to be implemented sequentially with a specified time frame and clearly defined responsibilities; and (iii) the Bank will need to closely support the government during the process of implementing institutional changes and policy measures, through nonreimbursable technical-cooperation operations (paragraph 2.4).
- 1.35 **Program strategy.** The government asked the Bank to structure financing under the programmatic policy-based loan (PBP) modality, with two loan operations that consider policy reforms in the energy and W&S sectors. The PBP supports the government's public utilities reform agenda, through the implementation of short- and medium-term sequential measures (CS-3633-1). The program complements actions that the Bank has been promoting in the energy (paragraph 1.31) and W&S sectors, through eight loan operations, four technical-cooperation operations, and a FECASALC grant (paragraph 1.32). The proposed policy reforms reinforce the country's commitment to improving the performance, institutional coordination, and strategic planning of the institutions related to the two sectors,³⁸ as well as to achieving universal access to W&S services and eliminating inequities (paragraph 1.20).
- 1.36 In the energy sector, the program will contribute to the execution of three of the four thematic pillars established in the PEN (decarbonization of the matrix, efficient use of energy and moderation of consumption, and security of supply). The Bank has closely monitored the design and implementation of the reform process (paragraph 1.47) and will continue this support through the technical cooperation operation in the process of being prepared (paragraph 3.3). In the W&S sector, the program with the PNSH contributes to the management of the investments made by various institutions in the sector, providing a holistic view in the context of water resources. CONAGUA promotes interagency coordination and decision-making, and manages sector strategic planning. The ensuing institutional strengthening will enable the sector to address the service coverage and quality gaps. The new sanitation company consolidates the UCPSP strengthening process and promotes

³⁸ Evidence has shown that reforms to the electricity sector's regulatory framework can lead to an increase in investments in generation from renewable sources and, therefore, to a reduction of GHG. *The Effects of Power Sector Reform on Energy Services for the Poor*. 2005.

the sustainability of sanitary sewerage infrastructure in the AMP (paragraph 1.29). The Bank will continue to support compliance with the triggers for the second operation, by means of a technical cooperation operation (paragraph 3.3).

- 1.37 **The Bank's strategy with the country.** The energy component is part of the Bank's country strategy with Panama 2015-2019 (document GN-2838), given its priority objective of enhancing the logistics services, efficiency, and connectivity of productive infrastructure by promoting more efficient use and regional energy exchange. The W&S component is consistent with document GN-2838, contributing as it does to the strategic objective of "Improving the delivery of basic services to population segments living in poverty," since the plans and policies supported by this operation will make it possible to increase and improve W&S service delivery. The operation is included in the 2017 Operational Program Report (document GN-2884).
- 1.38 **Strategic alignment.** The program is consistent with the Institutional Strategy Update 2010-2020 (document AB-3008) and is aligned with the following development challenges: (i) productivity and innovation, by reducing electricity rates through the introduction of new technologies and lower-cost energy sources (natural gas and renewable energy)^{39, 40} in the energy matrix, and the design of a pricing schedule based on efficient supply costs; and (ii) social inclusion and equality, through the provision of a more inclusive infrastructure, which will enable an increase in the number of households with access to water and sanitation services and improve the quality of energy, water, and sanitation service delivery. In the W&S sector, this operation will specifically seek to reduce the disparity in access to drinking water between urban and rural areas. As noted above, water coverage in urban areas is currently 98%, compared to 79% in rural areas, equivalent to an urban-rural coverage gap of 19 percentage points. The program expects rural coverage to grow to 90% in 2020 and urban coverage to attain 99% in that year, thereby narrowing the gap by 10 percentage points. This will help reduce access and quality disparities; and (iii) economic integration under the criterion of national subsidiarity, by fostering adequate technical conditions that facilitate an increase in regional electric energy exchanges through the SIEPAC line. The program is aligned with the crosscutting areas of: (i) climate change and environmental sustainability, by helping to reduce GHG emissions through program commitments associated with energy efficiency, renewable energy, and natural gas development in Panama; and (ii) institutional capacity and rule of law, as the program will strengthen planning and governance aimed at conserving and properly managing water as a natural resource. Roughly 16.7% of the operation's resources are associated with policies that will promote climate change mitigation activities, based on the joint [methodology](#) of multilateral development banks for

³⁹ In the electricity supply tender held in Chile in 2015, the average price was US\$47.6/MWh, with new actors joining the electricity market (84 suppliers participated), of which two thirds were based on wind and solar technologies. Electricity prices were around US\$100/MWh in 2015 with a matrix composed of almost 60% thermal energy.

⁴⁰ In the two public tenders for energy purchasing in Panama in 2015, the least-cost alternatives were generation from natural gas, in which the per MWh cost was nearly 10% lower than the second-best solutions presented. Implementation of the renewable energy targets defined in the Indicative Generation Plan (ETESA) also show that these technologies would reduce generating costs by over 10% by 2030. [Economic evaluation – Energy component](#).

estimating climate financing. These resources contribute to the IDB Group's goal of increasing lending for climate change-related projects to 30% of all operation approvals by 2020. The program is also aligned with the 2016-2019 Corporate Results Framework, through emission reduction indicators, households with new access to drinking water, households with new access to sanitation, and power generation from renewable energy sources.

- 1.39 The program is consistent with the Energy Sector Framework Document (GN-2830-3) in the thematic areas of energy access, sustainability, security, and governance, by supporting policy reforms that promote: (i) sustainable development of the sector; (ii) diversification of the energy matrix through the use of renewable energy and natural gas; (iii) efficient energy use; and (iv) regional integration. The program is consistent with the Climate Change Sector Framework Document (GN-2835-3) as the proposed energy policy reforms call for a reduction in GHG emissions.
- 1.40 The program is consistent with the objectives of the Water and Sanitation Sector Framework Document (GN-2781-3) within the following dimensions of success: universal access to water and sanitation and improved service quality; strengthened sector governance and prioritization of investments; and efficient and sustainable management with social and environmental sustainability.
- 1.41 **Consistency with the Sector Strategy to Support Competitive Global and Regional Integration.** According to the Sector Strategy to Support Competitive Global and Regional Integration (document GN-2565-4) and based on the scope of the program, this operation clearly contributes to: (i) a cross-country focus—in line with SIEPAC objectives, Component 2 provides for the development of infrastructure that contributes to the internationalization of the electricity sector with cross-border impacts; and (ii) regional additionality, by pursuing international and/or regional cooperation (SIEPAC) objectives. In other words, the scope of the operation simultaneously supports a group of countries that are promoting the MER, by reducing bottlenecks to make it possible to recover SIEPAC transportation capacity.
- 1.42 The activities supporting regional and global cooperation and integration can be classified in three main areas: (i) infrastructure; (ii) institutional strengthening and capacity building; and (iii) functional cooperation and regional public goods. According to the components described here, the program is classified within the scope of institutional strengthening and capacity development.
- 1.43 **Consistency with the Sustainable Infrastructure Strategy for Competitiveness and Inclusive Growth.** The program aligns with the priority areas of the Sustainable Infrastructure Strategy for Competitiveness and Inclusive Growth (document GN-2710-5) through reforms that foster the more efficient use of energy infrastructure through energy efficiency, regional integration, and the expansion of electricity coverage. In the case of W&S, the program contributes to: (i) promoting access to infrastructure services and continuous improvements in its governance; and (ii) supporting the construction and maintenance of a socially and environmentally sustainable infrastructure.
- 1.44 **The Bank's Public Utilities Policy (PUP) (GN-2716-6).** The program is consistent with the objectives of the PUP. Policy reforms driven by PUP principles promote

conditions of economic evaluation and financial sustainability and contribute to the technical, operational, and financial sustainability of the [energy and natural gas sector](#) by encouraging competition in the domestic and regional markets and improving pricing schedules and processes and subsidy targeting. In the case of [W&S](#), the reforms proposed by the program, and the national objectives for the sector, are aligned with PUP objectives and principles, as they promote transparency and accountability by improving the sector's monitoring and evaluation mechanisms with the PNSH. They also support the development of sector planning and the separation of functions in the activities to be undertaken by CONAGUA and are aligned with the Guidelines of the National Water and Sanitation Policy; and a more suitable sector structure is established with the creation of a public sanitation company (paragraph 1.55).

B. Objectives, components, and cost

- 1.45 **Program objective.** The program's overall objective is to contribute to the sustainability of the energy sector, and to increased coverage and improved management of W&S services, through a series of policy reforms aimed at strengthening and complementing the regulatory and institutional framework of the energy and W&S sectors. The specific objectives are to: (i) improve energy security through energy matrix diversification, energy efficiency, and regional integration; (ii) improve the financial and social sustainability of the energy sector and ease the fiscal burden, by reducing the cost of subsidies in the sector and targeting them more effectively; (iii) strengthen institutions in the areas of energy planning and purchasing; and (iv) improve interagency coordination in the W&S sector, with defined strategic planning and clear assignment of roles in all sector agencies. The program includes the following three components and subcomponents:
- 1.46 **Component 1. Macroeconomic stability.** The objective is to ensure the maintenance of a stable macroeconomic context consistent with the objectives of the program as set out in the Policy Matrix and in the [Sector Policy Letter](#).
- 1.47 **Component 2. Sustainable development of the energy sector.** This component supports the implementation of reforms that promote increased electric power supply with renewable energy, energy efficiency, and natural gas; and the consolidation of institutional planning, management, coordination, and regulation capacities through the following subcomponents:
- 1.48 **Subcomponent 2.1. Development of a sustainable energy matrix.** This subcomponent seeks to increase electricity supply to meet growing demand, by fostering the development of renewable energy, the introduction of natural gas, the implementation of energy efficiency measures, and an increase in regional electric energy exchanges. The policy conditions agreed upon for the first operation are: (i) a draft natural gas law that establishes the regulatory framework governing the importation, regasification, storage, exportation, pipeline transportation, network distribution, and virtual transportation and distribution of natural gas, drafted and submitted by the SNE to the Cabinet Council; (ii) a proposal for a National Plan of Action for institutional strengthening in energy efficiency, prepared by the SNE, which lays down institutional, legal, regulatory, and financing guidelines to reduce energy consumption in different sectors of the country; (iii) technical regulations on energy efficiency in the use of air conditioners, approved by the Ministry of Trade

and Industries, and a sustainable construction guide for energy savings in buildings, approved by the SNE; and (iv) reinforcements of the SNT in the Veladero-Llano Sanchez section converging with SIEPAC to improve regional exchanges, completed by ETESA.

- 1.49 The trigger mechanisms for the second operation are: (i) a draft natural gas law presented by the Cabinet Council to the National Assembly; (ii) draft regulations for the development of activities involving transportation, network distribution, and virtual distribution of natural gas, pursuant to the draft natural gas law, prepared by ASEP; (iii) a blueprint for long-term development of natural gas, approved by the Cabinet Council; (iv) a study of alternatives for the capitalization and financing of the UREE Fund, designed and approved by the SNE; (v) budget allocation to adopt energy efficiency measures and implement energy audits, assigned to at least one public institution; (vi) a financing proposal for the construction of the SNT reinforcements through the fourth transmission line converging with SIEPAC to improve regional electric energy exchanges, developed by ETESA; and (vii) a new Electricity Transmission Expansion Plan aligned with the MER Regional Indicative Expansion Plan, approved by ASEP.
- 1.50 **Subcomponent 2.2. Improvement and consolidation of the sector's institutional capacity.** The goal is to strengthen the institutional framework in areas of management, coordination, and planning. The policy commitments agreed upon for the first operation are: (i) the 2015-2050 National Energy Plan, defining the country's energy policy road map and governed by four guiding principles: (a) universal access and poverty reduction; (b) decarbonization of the matrix; (c) efficient energy use and moderation of consumption; and (d) security of supply, approved by the Cabinet Council (paragraph 1.23); and (ii) definition of the scope of a proposal to modify the models for long-term electric energy contracting specifications, to take into account multiple sources and generation technologies, approved by the SNE.
- 1.51 The second operation involves the following trigger mechanisms: (i) an updated 2015-2050 PEN, approved by the Cabinet Council;⁴¹ and (ii) purchasing rules containing models for long-term electric energy contracting specifications that take into account multiple sources and generation technologies, approved by ASEP.
- 1.52 **Subcomponent 2.3. Rationalization of subsidies in the energy sector.** This subcomponent will foster the development and implementation of mechanisms to reduce subsidies for electric power consumption and improve their targeting of the most vulnerable communities. Under the first operation, the following policy commitments were agreed upon: (i) targeting of subsidies in the energy sector by reducing the subsidy of the Western Rate Fund and eliminating the Energy Compensation Fund, approved by the Ministerial Cabinet; and (ii) a study commissioned by ASEP for the revision and definition of a new rate structure that promotes electricity rates based on efficient costs.
- 1.53 For the second operation, the following trigger mechanisms were established: (i) a study for the targeting of subsidies in electricity and LPG rates that exclusively

⁴¹ The PEN was approved in June 2016, with 2013 data used to set its targets. The PEN update will include the baseline and targets, together with an analysis of its implementation.

benefit the low-income population, approved by the SNE; and (ii) a new rate structure that reflects cost-efficient delivery criteria, approved by ASEP.

- 1.54 **Component 3. Sustainable development of the W&S sector.** This component will support sector reforms aimed at complementing actions in the sector to strengthen the capacity of sector entities to fulfill their functions, and to review the sector's institutional framework.
- 1.55 **Subcomponent 3.1. Improvement and consolidation of the sector's institutional capacity.** The aim of this subcomponent is to strengthen interagency coordination, strategic planning, and public policy tools to promote better performance of the W&S management model, and to continue allocating the resources needed to ensure universal coverage of W&S nationwide by 2030. The policy commitments agreed upon for the first operation are: (i) approval by the Cabinet Council of the 2015-2050 PNSH "Water for All," which is the road map that establishes policies, thematic pillars, and a plan of action to ensure that water is available in the quantity and quality acceptable to all users, especially for human consumption; (ii) CONAGUA and its Technical Secretariat attached to MiAmbiente (paragraph 3.2), created by the Cabinet Council to promote, guide, coordinate, and ensure implementation of the PNSH; and (iii) a draft law to create the Empresa Pública de Saneamiento de Panamá [public sanitation company],⁴² and define its objectives, powers, and privileges, corporate governance, labor regime and wage structure, capital, and pricing and subsidy policy, prepared by MINSA and presented to the Cabinet Council.
- 1.56 The trigger mechanisms for the second operation are: (i) operational plans (both five-year and annual) of the PNSH approved by CONAGUA, and budget resources assigned by the MEF; (ii) technical-administrative structure of the CONAGUA Technical Secretariat created by MiAmbiente, and MEF budget allocation for its operation; and (iii) a draft law to create the Empresa Pública de Saneamiento de Panamá, presented by the Cabinet Council to the National Assembly.

C. Key results indicators

- 1.57 The attainment of program objectives will be measured relative to the indicators and targets set out in the [Results Matrix](#). Table 1 lists the expected results and their indicators.

⁴² It will be responsible for the planning and management of sewerage services in the AMP, tasks currently performed by the UCPSP.

Table 1. Expected results and indicators

Impact	Indicator
Reduction of GHG emissions	Cumulative GHG emissions avoided by the program in the electricity sector
Enhanced energy productivity	Electricity consumption intensity (GWh/GDP)
Outcome	Indicator
Development of a sustainable energy matrix	Installed renewable energy capacity in the SIN (MW)
	Annual electricity generation with new alternative sources with low GHG emissions (GWh/year)
	Installed generation capacity using natural gas in the SIN (MW)
	Average electricity generation price (US\$/MWh)
	Electric energy marketed between Panama and SIEPAC (GWh)
	Energy savings from implementing energy efficiency measures.
Improvement and consolidation of the sector's institutional and regulatory capacity	Signed long-term energy purchase contracts with international standards and considering different types of technologies.
Rationalization of subsidies and rates in the energy sector	Contribution of the State to subsidies in the defined consumption range of between 101 and 300 kWh/month (FET) (US\$ million)
Increased water supply coverage	Households with access to water supply service in urban areas (households)
	Households with access to water supply service in rural areas (households)
Increased sanitary sewerage coverage and treatment	Urban households with connection to sanitary sewerage service and treatment (households)
Improved service continuity	Households with improved in-home access to drinking water

- 1.58 **Beneficiaries of the energy component.** The development of a socially and environmentally sustainable energy matrix—with a larger renewable energy share, the introduction of natural gas for electricity generation, and the implementation of energy efficiency measures—will benefit the population in all sectors of demand. The larger share of renewable energy and introduction of natural gas will reduce power generation operating costs, a benefit that is expected to be passed on to users through lower electricity prices, causing a positive effect on consumer income and enhancing Panama's competitiveness. Better energy prices represent competitiveness gains in terms of a lower country cost, benefiting trade and industry. The main sectors benefited by energy efficiency are commercial and residential, the two sectors with the highest consumption in the country. The main energy efficiency measures will be the introduction of more efficient lights and air conditioners, along with efficient architectural designs to be required in new buildings. The design of energy sector subsidies based on socioeconomic criteria

will allow vulnerable low-income communities to benefit while reducing the country's fiscal burden.

- 1.59 **Benefits of the W&S component.** By 2030, the entire population will benefit because 100% of households are expected to have 24/7 access to drinking water, and 100% of urban households are expected to have access to sanitary sewerage. This will reduce the disparities in access to these services, especially in rural areas. The program's expected intermediate targets involve attaining a national rate of water coverage of 96% (equivalent to 1,144,000 households) in 2020, 99% in urban areas (810,000 households) and 90% in rural areas (303,000 households), with 24/7 water supply in 794,000 households. By 2020, sanitary sewerage in urban areas is expected to reach 70%, representing 569,000 homes.
- 1.60 **Economic evaluation of the energy component.** An evaluation was made of the economic benefits obtained from diversifying the energy matrix with a larger share of nonconventional renewable energy, which leads to lower generating costs and reduced CO₂ emissions. The net present value (NPV) of the benefits of lower investment and generating costs are estimated at US\$52 million; and the NPV of environmental benefits amounts to an estimated US\$30 million resulting from an emissions reduction of 16.4 MMT of CO₂ in 2020-2030. The financial NPV (NPVf) amounts to US\$52 million since the costs of the program adjusted for externalities are equal to one. The economic NPV (NPVe) is estimated at US\$84 million, since the only externality considered is the environmental one. The analysis is in line with the main assumptions made in the scenarios of the SIN Expansion Plan; it uses a discount rate of 12% and values CO₂ at US\$6.01 per ton.
- 1.61 With the introduction of natural gas for electricity generation, the estimated NPV benefit from lower energy prices is US\$148 million, plus environmental benefits valued at US\$47 million, compared to the second-best option of coal-fired thermal generation, given the reduction in emissions of 16.6 MMT CO₂ for 2018-2030. The NPVf amounts to US\$148 million and the NPVe, to US\$195 million. The estimate of the benefits uses the market prices bid in the 2015 tenders for contracting exclusive supply of firm power and energy for thermoelectric power plants. The internal rate of return (IRR) is not calculated in this case because the price of the contracts remunerates all costs (including the recovery of the investment and the investors' opportunity cost). The methodology applied is to calculate the net consumer surplus realized by comparing the price of natural gas against alternatives with other fuels in the tenders.
- 1.62 Energy efficiency measures that contribute to achieving the targets set in the PEN are estimated to yield savings of 6.8 terawatt-hours (TWh) in 2017-2030, representing reductions in consumption of 10.6% by the residential sector; 16.9% by the commercial and industrial sectors; and 19% by the public sector, with emission reductions of 1.3 MMT of CO₂. These savings generate an NPVe of US\$1.129 billion, associated with improvements in lighting efficiency, efficient designs in new buildings, and the replacement of refrigeration equipment. Because the proposed investments are very small, the IRR is indeterminate.
- 1.63 The net benefits associated with the development of a sustainable energy matrix are shown in the table below:

Subcomponent	Net benefit (US\$ million)
Development of renewable energy	82
Introduction of natural gas – electricity sector	196
Implementation of energy efficiency measures	1,129
Total	1,407

- 1.64 Better targeting of subsidies on electricity consumption, seeking to reduce the consumption subsidized through the FET to 300 kWh/month starting in 2016 and 2017, will yield US\$9 million per year, compared to the subsidies granted in 2015. As the FET was extended until 2020, the dismantling of subsidies on consumption of between 301 and 400 kWh/month would generate fiscal savings of US\$36 million in that period. If the FET was ended in 2020, there would be an additional fiscal savings of US\$43 million per year beginning in 2021.
- 1.65 **Economic evaluation of the W&S component.** A [cost-benefit analysis of the component](#) aimed at increasing water supply and sanitation services coverage and improving continuity was performed. To that end, the flow of incremental costs and benefits resulting from the reform were calculated, and coverage scenarios with and without reform were projected. As a result of the reform, by 2030, 4,885,430 people will have access to water services and 3,675,041 people, to sanitation. The benefits considered for the economic analysis were: (i) for the increase in coverage of drinking water services, the savings in water purchases or transportation were estimated, adding the benefits from increased consumption using typical demand curves; (ii) for the improvement in service quality, the value of rationing due to low service quality was calculated; and (iii) for the increase of coverage in sanitation and wastewater treatment, willingness to pay for the service was estimated.
- 1.66 The following costs were considered: investment, operation, and maintenance typical of the expansion in coverage, the program effect, and institutional costs due to the program (costs of new institutions and procedures or their strengthening, which would produce the effect of increased coverage). The results of the analysis show that the program is economically viable.
- 1.67 These reforms produce benefits of US\$2.025 billion in present value terms, with present-value costs of US\$1.738 billion. The program is viable with an NPV of US\$287 million and an IRR of 14.3%. A sensitivity analysis performed on the key assumptions of the economic evaluation demonstrated the robustness of the results.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

- 2.1 The program is structured under the PBP loan modality, as the first of two operations technically linked to each other, but financed independently. The PBP is the Bank's most appropriate instrument to support the deepening of government progress on sustainable management of the sector, since it facilitates policy dialogue between the country and the Bank, provides the timeframes needed for

the reforms to be implemented, and offers the opportunity to review the progress made in the first operation. In accordance with paragraph 3.27 (b) of document CS-3633-1, "Policy-based Loans: Guidelines for Preparation and Implementation," the scaling of the operation was based on fiscal needs facing the country. For 2017, the central government's financing needs are equivalent to 3.2% of GDP. The amount of the operation is intended to cover part of this financing and represents 15.8% of the total funding requirement.

B. Environmental and social risks

- 2.2 Pursuant to Directive B.13 of the Bank's Environment and Safeguards Compliance Policy (document GN-2208-20 and Operational Policy OP-703), no environmental impact classification is required. The proposed reforms do not generate negative environmental or social impacts.

C. Fiduciary risks

- 2.3 Panama has a long track record in the management of external credit resources and financial management risks are not envisaged. The MEF has extensive experience in the execution of reform processes and will provide support to the sector authorities leading the process supported by this PBP in the public utilities sectors. The proposed PBP provides unrestricted funds for budget support under a responsible fiscal policy framework.

D. Other project risks

- 2.4 The following were identified as average risks: (i) monitoring and accountability: failure to deliver the means of verification in the agreed-upon format or delays in doing so; (ii) development: lack of coordination among the institutions involved to fulfill program commitments; and (iii) lack of necessary and sufficient resources to accomplish the activities committed to. The following mitigation measures have been identified: (i) development of a monitoring plan that includes a schedule and milestones as well as coordination meetings with the respective sector entities; (ii) designation of personnel within the MEF, SNE, ASEP, ETESA, MiAmbiente through the CONAGUA Technical Secretariat, DISAPAS/MINSA, and the UCPSP/MINSA, to coordinate follow-up and completion of the defined tasks; and (iii) preparation of a plan to monitor the activities committed to and technical support from the Bank through nonreimbursable technical-cooperation funding (paragraph 3.3).

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of implementation arrangements

- 3.1 The borrower will be the Republic of Panama. The program will be executed and the loan proceeds applied by the borrower through the MEF, serving as executing agency through the Public Financing Division. The MEF, through periodic analysis and monitoring meetings, will coordinate with the SNE, ASEP, ETESA, MiAmbiente through the CONAGUA Technical Secretariat, DISAPAS/MINSA, and the UCPSP/MINSA to fulfill programmatic policy commitments and the consolidation of sector reform. The MEF is responsible for: (i) ensuring policy objectives are achieved; (ii) providing evidence of compliance with the agreed-upon policy conditions; and (iii) compiling and providing the information that will

enable the government and the Bank to measure and evaluate the program's results.

- 3.2 The loan proceeds will be transferred to the MEF pursuant to the financial administration procedures specified in national legislation. A single payment is expected to be made after the loan contract enters into force and when fulfillment of the special and general conditions precedent to disbursement has been verified. **The single disbursement will be subject to fulfillment of the policy reform commitments, which are described in the program components and are set out in the Policy Matrix (Annex II), in addition to compliance with the other conditions established in the loan contract.**⁴³ Compliance will be confirmed through the instruments identified in the [Means of Verification Matrix](#). The Bank may request an external audit of the program if it considers this appropriate.
- 3.3 To support fulfillment of the policy commitments specified for the program's second loan operation, the Bank is currently preparing nonreimbursable technical-cooperation operations PN-T1169 and PN-T1182. These operations will support, respectively, the policy commitments associated with: (i) the introduction of natural gas into Panama's energy matrix; (ii) the capitalization of the UREE Fund; (iii) ETESA's electric energy transmission expansion plan; (iv) better targeting of electricity sector subsidies; (v) strengthening of the institutional framework of the W&S sector and water resources; (vi) upgrading of the CONAGUA Technical Secretariat; and (vii) support to create the Empresa Pública de Saneamiento. The technical cooperation funds are expected to be approved in 2017.

B. Summary of arrangements for monitoring results

- 3.4 A detailed [Monitoring and Evaluation Plan](#) (MEP) has been produced, with indicators of medium- and long-term outcomes and impacts, consistent with the policy reform process agreed upon in the Policy Matrix (Annex II). These indicators are set out in the [Results Matrix](#). The MEP provides for monitoring and coordination meetings between the government agencies involved in implementing the policy reforms, to identify trends and results as the reforms progress. The government and the Bank have agreed to hold regular meetings to monitor and evaluate the Results Matrix. Before processing the second operation of the PBP series, the Bank will produce a progress report reviewing program developments, progress on reforms, and trigger mechanisms, while also identifying the changes and adjustments that could be needed to achieve program goals.
- 3.5 Once the second operation has been implemented, an ex post evaluation of the program will be performed. The methodology will be similar to the ex ante economic evaluation (cost-benefit analysis) conducted at the start of each loan in the series. A project completion report will be prepared by the project team at the end of the second loan operation, pursuant to Bank guidelines (OP-1242-5). It will evaluate the results obtained, and use the cost-benefit analysis as an input.

⁴³ By the date of approval of the operation by the Board of Executive Directors of the IDB, the policy commitments for the first operation are expected to have been fulfilled satisfactorily.

IV. POLICY LETTER

- 4.1 The government has agreed with the Bank on the macroeconomic and energy and W&S sector policies supported by the program, as set out in the [Policy Letter](#) sent to the Bank by the MEF, which refers to the main components of the strategy for the PBP and its commitment to these agreements.

Development Effectiveness Matrix		
Summary		
I. Corporate and Country Priorities		
1. IDB Development Objectives	Yes	
Development Challenges & Cross-cutting Themes	-Social Inclusion and Equality -Productivity and Innovation -Economic Integration -Climate Change and Environmental Sustainability -Institutional Capacity and the Rule of Law	
Country Development Results Indicators	-Reduction of emissions with support of IDBG financing (annual million tons CO2 e)* -Households with new or upgraded access to drinking water (#)* -Households with new or upgraded access to sanitation (#)*	
2. Country Development Objectives	Yes	
Country Strategy Results Matrix	GN-2838	(i) Deepen the logistics services, efficiency, and connectivity of the productive infrastructure (ii) Improve the delivery of basic services to the population living in poverty
Country Program Results Matrix	GN-2884	The intervention is included in the 2017 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		
II. Development Outcomes - Evaluability	Evaluable	
3. Evidence-based Assessment & Solution	8.1	
3.1 Program Diagnosis	3.0	
3.2 Proposed Interventions or Solutions	2.4	
3.3 Results Matrix Quality	2.7	
4. Ex ante Economic Analysis	7.0	
4.1 The program has an ERR/NPV, a Cost-Effectiveness Analysis or a General Economic Analysis	4.0	
4.2 Identified and Quantified Benefits	1.5	
4.3 Identified and Quantified Costs	1.5	
4.4 Reasonable Assumptions	0.0	
4.5 Sensitivity Analysis	0.0	
5. Monitoring and Evaluation	6.5	
5.1 Monitoring Mechanisms	1.5	
5.2 Evaluation Plan	5.0	
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood	Low	
Identified risks have been rated for magnitude and likelihood	Yes	
Mitigation measures have been identified for major risks	Yes	
Mitigation measures have indicators for tracking their implementation	Yes	
Environmental & social risk classification	B.13	
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)		
Non-Fiduciary		
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Gender Equality		
Labor		
Environment		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project		
The ex-post impact evaluation of the project will produce evidence to close knowledge gaps in the sector that were identified in the project document and/or in the evaluation plan		

Note: (*) Indicates contribution to the corresponding CRF's Country Development Results Indicator.

Panama's energy matrix is mainly oil based, placing the country as the mayor GHG per capita contributor of the Central American Integration System. Electric demand growth puts in risk the electric system sustainability, which mainly depends on water resources. In the water and sanitation sector, management faces limitations on institutional coordination, responsibilities assignment definition, and strategic planning, which risks the fulfillment of the national target on coverage and quality. The operation PN-L1145 aims to address this situation by improving: energy security, social and financial sustainability, and institutional capacity in the energy sector; also by enhancing institutional coordination and strategic planning in the water and sanitation sector. To reach these objectives, the operation will conduct a series of policy reforms aimed at: increasing renewable energy and natural gas participation in the energy matrix, promoting the use of energy efficiency measures, improving subsidies targeting in the energy sector, increasing regional energy exchanges, and improving the coordination of institutions responsible for the water and sanitation sector.

The vertical logic has been correctly identified by quantifying and explaining the main determinants of the general and specific problems. The results matrix reflects the diagnosis and accounts for the outputs and expected outcomes of the proposed intervention. However, by definition, some outputs do not reach the SMART category.

The economic analysis conducted for the most relevant policy reforms of the program show a positive economic return. By applying a 12% social discount rate, the policy reforms display an IRR of 19.2% in the most relevant energy component, and 14.3% in the water and sanitation component. Sensibility analysis were reported for some of the components quantified in the economic analysis, which show a return rate higher than the social discount rate, under considerable changes in the main parameters.

The monitoring and evaluation plan is adequate and consistent with the intervention. It correctly identifies the phases, responsibilities, budget and timelines. The ex post evaluation of results proposes a before and after methodology for the intervention for the energy sector and an ex post cost benefit analysis for the water and sanitation sectors.

POLICY MATRIX

Objective	Policy Conditions Programmatic I	Trigger Mechanisms Programmatic II
Component 1. Macroeconomic stability		
Stability in the general macroeconomic policy framework	Stable macroeconomic framework consistent with program objectives as set out in the Policy Matrix and in the Sector Policy Letter.	Stable macroeconomic framework consistent with program objectives as set out in the Policy Matrix and in the Sector Policy Letter.
Component 2: Sustainable development of the energy sector		
Subcomponent 2.1. Development of a sustainable energy matrix		
Improve energy security through energy matrix diversification, energy efficiency, and regional integration.	Proposed draft natural gas law, which establishes the regulatory framework for the importation, regasification, storage, export, pipeline transport, network distribution, and virtual transportation and distribution of natural gas, presented by the National Energy Department (SNE) to the Cabinet Council.	Draft natural gas law presented by the Cabinet Council to the National Assembly. Draft regulations for the development of the activities of transport, network distribution, and virtual distribution of natural gas, pursuant to the draft natural gas law, prepared by the National Public Utilities Authority (ASEP) Long-term natural gas development master plan, approved by the Cabinet Council.
	Proposal for a National Plan of Action for institutional strengthening in energy efficiency, prepared by the SNE, laying down institutional, legal, regulatory, and financing guidelines for reducing energy consumption in different sectors of the country.	Study of alternatives for capitalization and financing of the Fund for Rational and Efficient Energy Use (UREE Fund), ¹ designed and approved by the SNE. Budget to adopt energy efficiency measures and implement energy audits, assigned in at least one public institution.
	Technical regulations for energy efficiency in the use of air conditioners, approved by the Ministry of Trade and Industries; and sustainable construction guidelines for energy saving in buildings, approved by the SNE.	

¹ Created under Law 69 of 2012, establishing the guidelines of the national UREE policy. The UREE Fund does not yet have capital allocated to enable it to start operations.

Objective	Policy Conditions Programmatic I	Trigger Mechanisms Programmatic II
	Reinforcements of the National Transmission System (SNT) in the Veladero-Llano Sanchez section converging with the Central American Electrical Interconnection System (SIEPAC), to improve regional exchanges, completed by the Empresa Estatal de Transmisión Eléctrica (ETESA).	Proposed financing for construction of the reinforcement of the SNT through the Fourth Transmission Line converging with SIEPAC to improve regional electric exchanges, developed by ETESA. New Electric Energy Transmission Expansion Plan aligned with the Indicative Expansion Plan of the Regional Electricity Market (MER), approved by ASEP.
Subcomponent 2.2. Improvement and consolidation of the sector's institutional capacity		
Strengthen the institutional framework in areas of energy planning and procurement.	2015-2050 National Energy Plan (PEN), defining the country's energy policy road map and governed by four guiding principles: (i) universal access and poverty reduction; (ii) decarbonization of the matrix; (iii) efficient energy use and moderation of consumption; and (iv) security of supply, approved by the Cabinet Council.	Updated 2015-2050 National Energy Plan, approved by the Cabinet Council SNE. ²
	Definition of the scope of a proposal to modify the models for long-term electric energy contracting specifications, to take into account multiple sources and generation technologies, approved by the SNE.	Purchase rules containing model specifications for long-term electric energy contracting specifications that take into account multiple sources and generation technologies, approved by the ASEP.
Subcomponent 2.3. Rationalization of subsidies in the energy sector		
Improve the financial and social sustainability of the energy sector and the fiscal burden, by reducing the cost of subsidies in the sector and improving their targeting.	Targeting of subsidies in the energy sector by reducing the Western Rate Fund (FTO) subsidy, and eliminating the Energy Compensation Fund, approved by the Cabinet of Ministers.	Study for the targeting of subsidies for electricity rates and liquefied petroleum gas prices that exclusively benefit the low-income population, approved the SNE.
	Study commissioned by ASEP for the revision and definition of a new rate structure to introduce electricity rates based on efficient costs contracted by ASEP.	A new rate structure that reflects cost-efficient delivery criteria, approved by ASEP

² The PEN was approved in June 2016, using 2013 data to set its targets. The PEN update will include its baseline and targets, together with an analysis of its implementation.

Objective	Policy Conditions Programmatic I	Trigger Mechanisms Programmatic II
Component 3. Sustainable development of the water and sanitation (W&S) sector		
Subcomponent 3.1. Improvement and consolidation of the sector's institutional capacity		
Improve interagency coordination in the W&S sector, with defined strategic planning and clear assignment of roles in all sector agencies.	2015-2050 National Hydrological Security Plan (PNSH) "Water for All," which is the road map that establishes the policies, thematic pillars, and a plan of action to ensure that water is available in quantity and quality acceptable to all users, particularly for human consumption, approved by the Cabinet Council.	PNSH Operational Plans (five-year and annual), approved by CONAGUA, and budget resources assigned by the MEF.
	National Water Council (CONAGUA) created by the Cabinet Council, chaired by the Ministry of the Environment (MiAmbiente) and comprising the Ministry of Economy and Finance (MEF), the Ministry of Health (MINSa), the Ministry of Agricultural Development (MIDA), the Panama Canal Authority (ACP), ASEP, the National Water and Sanitation Administration (IDAAN), and the Ministry of the Office of the President, to promote, guide, coordinate, and ensure implementation of the 2015-2050 National Hydrological Security Plan "Water for All," and the CONAGUA Technical Secretariat created by the Cabinet Council.	Technical administrative structure of the CONAGUA Technical Secretariat created by MiAmbiente and budget resources allocated by the MEF for its operation.
	Draft law for the creation of the Empresa Pública de Saneamiento de Panamá, setting out its objectives, powers, and privileges, corporate governance, labor regime and salary structure, capital, and pricing and subsidy structure, prepared by MINSa and presented to the Cabinet Council.	Draft law to create the Empresa Pública de Saneamiento de Panamá, presented by the Cabinet Council to the National Assembly.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/17

Panama. Loan ____/OC-PN to the Republic of Panama
Public Utilities Sustainable Development Support Program

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Republic of Panama, as Borrower, for the purpose of granting it a financing to cooperate in the execution of a public utilities sustainable development support program. Such financing will be for the amount of up to US\$300,000,000 from the resources of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on ____ _____, 2017)