

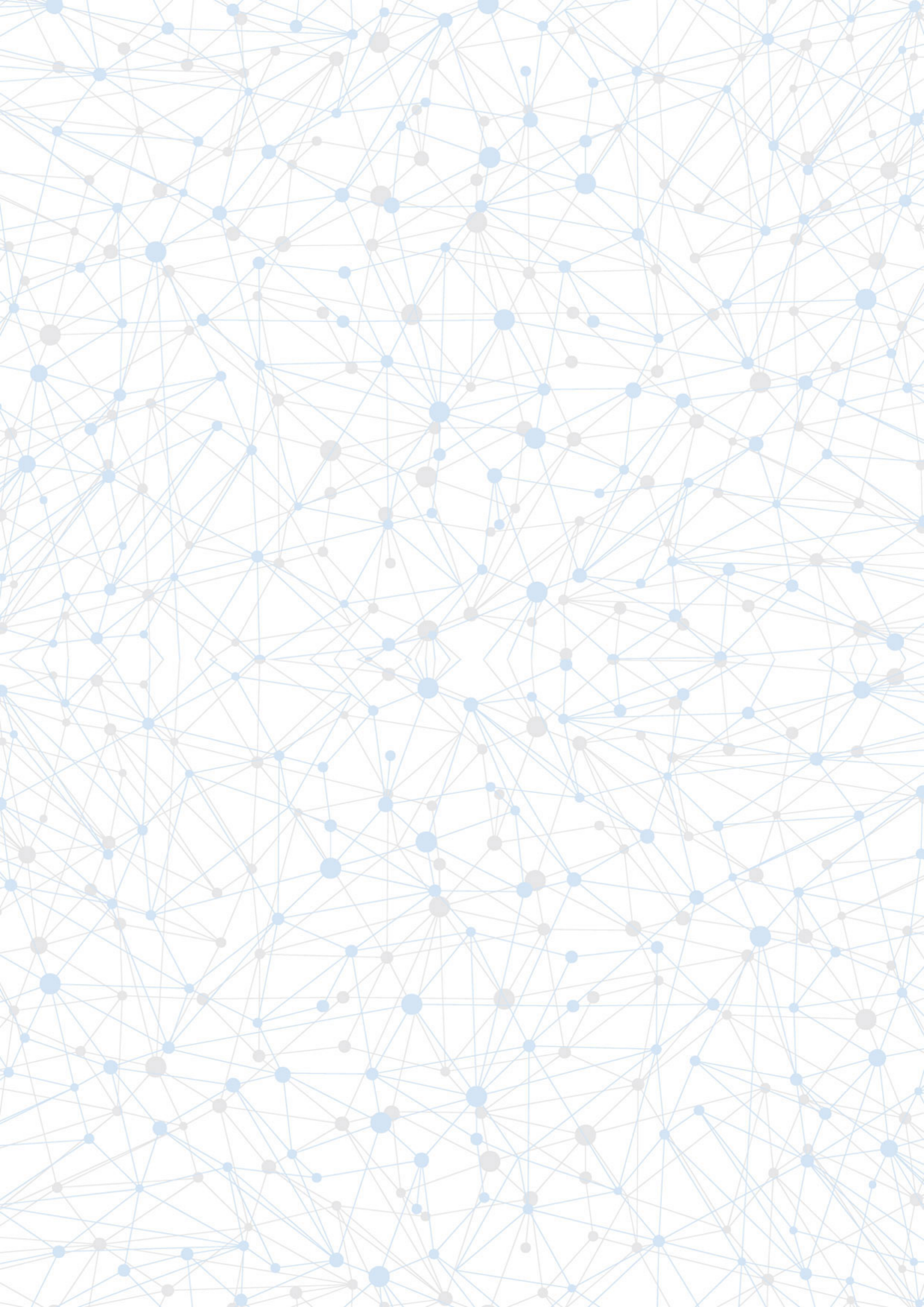


UNASUR
COSIPLAN



Integration
Priority Projects
Agenda
2016

South American
Infrastructure and
Planning Council





Integration
Priority Projects
Agenda
2016

IIRSA Technical Forum

With the cooperation of the Technical Coordination Committee



Institute for the Integration of Latin America and the Caribbean























Note

The information about the projects presented here is built on the data contained in the COSIPLAN Project Information System (SIP) (<http://www.iirsa.org/proyectos>) as of August 10, 2016. The information in such system is permanently updated by the UNASUR Member States.


The maps in this document have been prepared by IIRSA Technical Coordination Committee (CCT) as a technical and general reference work tool. Borders, colors, denominations, or other information shown in them are used exclusively for illustration purposes, and are not to be understood as a judgment, opinion or other on the legal status of a territory or as recognition of borders by the institutions that make up the CCT.

MAP LEGEND

1. Projects

	Navigability		Ring Railway
	Oil/Gas Pipeline		Tunnel
	Electric Transmission Line		Navigability
	Road		Bridge
	Rail		Environmental Program
	Telecommunications Line		Multimodal Transportation
	Border Crossing, CEFAB		Inland Port
	Port		Electricity Generation
	Logistics Center		Gas
	Airport		River
	Ring Road		Telecommunications Infrastructure

2. Geographical Legend

	Country Capital		Existing Waterway
	City		Existing Railroad
	Country Border		Existing Road

LEGEND

1. Project Life Cycle Stages



2. Integration and Development Hubs



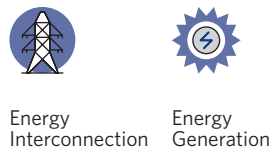
3. Sectors



4. Subsectors



Energy



Communications



5. Types of Financing



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www.iirsa.org/cartera2016.asp

1. Detailed List of API Structured and Individual Projects

2. Types of Works Involved in API Individual Projects

Overview

This Fifth Report on the Integration Priority Projects Agenda (API), provided for in the COSIPLAN-IIRSA Work Plan 2016, takes stock of the evolution of API and outlines the results of the work carried out by the countries in updating and analyzing the projects.

Chapter 1 describes the projects that make up API, taking into consideration their territorial scope and technical characteristics, the sectors and subsectors involved, and their type of financing. Concerning the evolution of this Agenda, this chapter presents its progress status, the estimated date of completion of the projects, and an analysis of the projects already completed.

Chapter 2 presents the evolution of API between 2012 and 2016, taking into account the number of individual projects and the total estimated investment. Furthermore, it provides a detailed analysis of the progress made by the API projects between 2015 and 2016 as a result of the work conducted by the countries during this year's update process.

Chapter 3 details the technical characteristics, current status and progress of each one of the 31 API structured projects, classified by Integration and Development Hub, including a brief socioeconomic and environmental characterization of the Hub.

Chapter 4 outlines the territorial planning process undertaken in South America. It explores the importance of the territory as a space to achieve sustainable development, and presents the concept of Integration and Development Hub. It also describes the Indicative Territorial Planning Methodology and its application, which led to the creation of the Project Portfolio. Furthermore, it presents the COSIPLAN Project Information System (SIP) as the technological platform designed to gain better insight into the Portfolio and API projects.

Executive Summary

The **Union of South American Nations (UNASUR)** was created by the South American presidents in 2008 as a forum for high-level political dialogue and coordination among the twelve countries of the region. In 2009, within this institutional framework, a number of sectoral councils at ministerial level, one of which is the **South American Infrastructure and Planning Council (COSIPLAN)**, were created. COSIPLAN is the forum where political and strategic discussions are held with a view to planning and implementing the UNASUR Member Countries' regional infrastructure integration.

In 2010, the presidents charged the COSIPLAN with the task of identifying and selecting a series of works that would impact powerfully on the integration and development of South America, the result of which was the **Integration Priority Projects Agenda (API)**. The objective of API is to promote regional connectivity by building infrastructure networks for physical integration purposes, considering sustainable social and economic development criteria, and preserving the environment and the balance of ecosystems.

API is made up of **Structured Projects**. They involve one or more projects from the COSIPLAN Project Portfolio that are known, for the purposes of this Agenda, as **individual projects**. The structured projects strengthen physical connectivity networks that are regional in scope, and are distributed in the different **Integration and Development Hubs**.

Between 2012 and 2013, the countries worked on the design of a **Methodology for Scheduling the Life Cycle** of the API individual projects. Furthermore, on the basis of this methodology, a **Continuous Monitoring System (CMS)**, which is part of the COSIPLAN Project Information System (SIP), was developed. The purpose of both instruments is to monitor project progress and facilitate decision making by the competent authorities in order to achieve project implementation.

The COSIPLAN Project Information System (SIP) is the technological platform enabling users to gain insight into the Portfolio and API projects. This tool is unique in the region as it offers free access online to official and quality data on the works undertaken.

1. API in 2016

Territorial Scope of the Projects: When analyzing the API projects by country, it is interesting to note that the countries with the greatest projected investments in API are not necessarily the ones with a greater GDP, population or territory. The first five countries with the highest estimated investment in API are Paraguay, Argentina, Brazil, Peru and Colombia. Most API individual projects are national. These national projects, in terms of number, account for 72% of API and, in terms of estimated investment, for 83% of the Agenda.

Sectors and Subsectors. Of all the API individual projects, 97% fall in the transport sector and account for an investment estimated at 91% of the total. The other 3% falls in the energy sector and accounts for an estimated investment of 9%. Regarding the subsector-based breakdown of the API individual projects, road projects account for 31% of the Agenda and almost half of its total estimated investment amount (45%).

API Technical Characteristics. Based on the data supplied by the countries in the COSIPLAN Project Information System, API involves:

- one freight and passenger airport
- more than 7,755 km of road corridors
- two beltways, one bypass, one road interchange, one road junction and one roundabout
- two tunnels
- 54 bridges
- more than 7,154 km of rail corridors
- four river ports, two river port terminals, and 12 docks
- 8,508 km of waterways in 14 rivers and two lakes
- one system for water level prediction
- four sea ports
- six logistics transfer centers
- one management control system
- 12 border control and border service centers
- two 500-kV transmission lines running along 711 km
- one 1,500-km long trunk gas pipeline

Type and Source of Financing. The financing defined for the API projects is provided mostly by the public sector (76% of the total estimated investment), while the other investments in the works come from the private sector (13%) and public-private initiatives (11%). Public financing predominates regardless of the sector: in the transport sector, it finances 70% of the projects. As for the sources of financing, it is worth noting the role played by the national treasuries, which finance 44% of the total works involved in API.

The five API structured projects that require the most financing account for 65% of the whole amount estimated for the works in the Agenda and belong to five different Hubs (Capricorn, Andean, Amazon, MERCOSUR-Chile and Paraguay-Paraná Waterway).

API Implementation Status. Most API individual projects (35%) are at the pre-execution stage, while API estimated investment is concentrated in the projects at the execution stage (31%). On the basis of the distribution of the projects among each stage and of their degree of progress within each sub-stage, the following can be observed:

- In the case of the pre-execution stage, the life cycle schedule of 28 of the 36 projects has been completed, and 12 of the former are at an advanced level as their studies have been completed and approved, the permits have been granted, and the financing for commencing the works has been secured.
- In the case of the execution stage, only 2 of the 24 projects whose life cycle schedule has been completed are at an advanced stage, i.e. more than half of the works involved in them have been completed.

Estimated Completion of the Projects. When analyzing the estimated date of completion of the other API individual projects, it should be noted that around 70% of these will be completed by 2019, involving a US\$10,000 million investment. Almost all the projects in this Agenda (96%) are expected to be completed at the deadline established, i.e. in 2022.

Completed Projects. API completed individual projects are 17, accounting for US\$1,327 million of the investment made. In 2016, three Amazon Hub projects falling in the transport sector —two in the river subsector and one in the sea subsector— were completed.

2. Evolution of the Integration Priority Projects Agenda

Since its creation in 2011, API comprises the same 31 structured projects, and changes in terms of number during this period have been in individual projects. A relatively greater variation has been experienced in the estimated investment in the works concerned, which increased by 17% (from US\$17,261 million to US\$20,149 million) between 2012 and 2016.

Changes in API between 2015 and 2016. In 2016, online meetings of the Executive Technical Groups to Update the Projects in the COSIPLAN Portfolio and API were held. A meeting was held for each Integration and Development Hub, using an online videoconference tool.

In preparation for the above-mentioned meetings and as a result of the discussions held at them, the countries worked on the update of the Portfolio and API projects in the COSIPLAN Project Information System. As of the date of this report, almost 80% of the projects are updated as of 2016 (81 of 103).

Individual projects were kept unchanged vis-à-vis 2015. The total API estimated investment amount was reduced from US\$21,135 million in 2015 to US\$20,149 in 2016.

At present, API includes 31 structured projects made up of 103 individual projects. The estimated investment is US\$20,149 million.

3. The Integration and Development Hubs

The **Amazon Hub** comprises 27 individual projects, structured into three API projects for an investment estimated at US\$2,669 million. Eight works have been completed, and another 11 are expected to be completed before 2019. Two structured projects will be completed in 2019, and the other one in 2020.

The **Andean Hub** comprises 13 individual projects, structured into five API projects for an investment estimated at US\$3,857 million. Three works have been completed, and another six works as well as four structured projects are expected to be completed before 2019.

The **Capricorn Hub** comprises 18 individual projects, structured into five API projects for an investment estimated at US\$7,478 million. Two works have been completed, and another seven works as well as two structured projects are expected to be completed before 2019.

The **Guianese Shield Hub** comprises six individual projects, structured into three API projects for an investment estimated at US\$959 million. Two works have been completed, and another two works as well as two structured projects are expected to be completed before 2019.

The **Paraguay-Paraná Waterway Hub** comprises 16 individual projects, structured into four API projects for an investment estimated at US\$1,563 million. Eight works will be completed before 2019, which will involve the implementation of 82% of the investment for the Hub and the completion of two structured projects.

The **Central Interoceanic Hub** comprises seven individual projects, structured into four API projects for an investment estimated at US\$442 million. All the works are expected to be completed before 2017, except for the works involved in the Bioceanic Railway Corridor, which will be completed in 2024, the same year of completion of three structured projects.

The **MERCOSUR-Chile Hub** comprises 15 individual projects, structured into six API projects for an investment estimated at US\$3,132 million. All the works are expected to be completed before 2019, except for the works involved in the Agua Negra Binational Tunnel and the

Northeastern Argentina Gas Pipeline, which will be completed in 2022, the same year of completion of four structured projects.

The **Peru-Brazil-Bolivia Hub** comprises one structured project made up of a single individual project for an investment estimated at US\$48 million. The project is expected to be completed in 2017.

4. The Territory and Integration Infrastructure Planning

The distinctive feature of the cooperation and dialogue process aimed at securing a greater and more sustainable physical integration in the region has been **infrastructure planning in the transportation, energy and communications sectors with a regional perspective**. With a focus on the territory, this process is intended to enhance the competitiveness of the economies of the region, contribute to reducing regional disparities and social inequality, and improve life expectancy and quality of life in every country and in the region as a whole.

In order to frame infrastructure planning, theoretical and practical tools linking the territory and infrastructure were used, which helped set up the **Integration Infrastructure Project Portfolio**. This was possible thanks to the development and application of the **Indicative Territorial Planning Methodology**. This methodology is based on the identification of **Integration and Development Hubs**, which organize the South American territory and structure the portfolio.

In 2011, the countries approved the **Integration Priority Projects Agenda (API)**, which is made up of a subset of COSIPLAN Portfolio projects. With the creation of API that same year, the notion that interventions in the territory go beyond the construction of physical works was strengthened, in keeping with the objectives of UNASUR.

In order to record the progress made in the implementation of the API projects, it became necessary to add two new components associated with the project database: (i) a module to consolidate all the information on the API projects, and (ii) a **Continuous Monitoring System (CMS)** for these projects, based on the **Methodology for Scheduling the Life Cycle** of the API individual projects.

To incorporate these new instruments, technical and programming adjustments had to be made to the project database platform in place. In this context, the **COSIPLAN Project Information System (SIP)**, comprising three online interconnected components for both access and data entry, was developed in 2013.

In 2016, a diagnosis was made of the quality of the project information contained in the SIP, placing special emphasis on reviewing projects with inconsistent information and on completing any data fields that were empty or included partial information. A review was also made of the projects at the pre-execution stage to detail their progress and current status as accurately as possible so as to facilitate their implementation. Furthermore, the SIP home page was updated to include visualizations and infographics of the projects. An explanatory video of the system was also developed.

Introduction

The origins of South American physical integration can be traced as far back as more than a decade ago. Indeed, since 2000, the South American governments have been making a major effort of cooperation with the purpose of securing a greater and more sustainable physical integration in the region. The First South American Presidential Summit, held in Brasilia that same year, marked the beginning of a process of integration and cooperation in different fields among the twelve independent South American countries: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, and Venezuela. Among other actions, the **Initiative for the Integration of Regional Infrastructure in South America (IIRSA)** was launched that year.

The **Union of South American Nations (UNASUR)** was created by the South American presidents in 2008 as a forum for high-level political dialogue and coordination among the twelve countries of the region. In 2009, within this institutional framework, a number of sectoral councils at ministerial level, one of which is the **South American Infrastructure and Planning Council (COSIPLAN)**,⁽¹⁾ were created. COSIPLAN is the forum where political and strategic discussions are held with a view to planning and implementing the UNASUR Member Countries' regional infrastructure integration.

In 2010, the presidents charged the COSIPLAN with the task of identifying and selecting a series of works that would impact powerfully on the integration and development of South America, the result of which was the **Integration Priority Projects Agenda (API)**. The objective of API is to "promote regional connectivity by building infrastructure networks for physical integration purposes, considering sustainable social and economic development criteria, and preserving the environment and the balance of ecosystems."⁽²⁾

The projects in this Agenda were selected on the basis of the following criteria:

- **Criterion 1.** The projects should belong to the COSIPLAN Project Portfolio and be a priority in government action, and there should be a commitment to accomplish them (evidenced by the allocation of funds through multi-year financing programs, by the legislation passed, the budget measures taken, etc.).
- **Criterion 2.** Feasibility studies should be available, or the country should have the funds allocated to start their execution.
- **Criterion 3.** The projects should strengthen connectivity networks that are regional in scope, and involve cross-border synergies.
- **Criterion 4.** There should exist an opportunity or a need for taking complementary actions intended to promote efficient service provision and the sustainable development of the territory, according to the characteristics and modality of each specific project.

API is made up of **structured projects**. They involve one or more projects from the COSIPLAN Project Portfolio that are known, for the purposes of this Agenda, as **individual projects**. The structured projects strengthen physical connectivity networks that are regional in scope, and are distributed in the different **Integration and Development Hubs**.⁽³⁾

In 2012, the Presidents approved the COSIPLAN Strategic Action Plan (PAE) 2012-2022 and the Integration Priority Projects Agenda

¹ See <http://www.iirsa.org/cosiplan>

² COSIPLAN Statutes, article 4.

³ See <http://www.iirsa.org/ejes>

(API), the two instruments that would structure the work of COSIPLAN in the next ten years. Since then, the progress and implementation of the API projects have deserved special attention by the Council.

Between 2012 and 2013, the countries worked on the design of a **Methodology for Scheduling the Life Cycle**⁽⁴⁾ of the API individual projects. Furthermore, on the basis of this methodology, a **Continuous Monitoring System (CMS)**, which is part of the COSIPLAN Project Information System (SIP), was developed.

The **COSIPLAN Project Information System (SIP)**⁽⁵⁾ is the technological platform enabling users to gain insight into the Portfolio and API projects. This tool is unique in the region as it offers free access online to official and quality data on the works undertaken. The system serves to support decision making and strategic planning processes in the South American countries in order to attain regional connectivity. Furthermore, it confers transparency to the work being undertaken by the countries, thus promoting access to information and the participation of civil society in the integration process.

API is reviewed and updated on a yearly basis by the South American countries and is one of the main tools of COSIPLAN to implement the integration of infrastructure in the region.

⁴ For more information on the Life Cycle Scheduling Methodology, see Chapter 4 in this Report.

⁵ See <http://www.iirsa.org/proyectos>

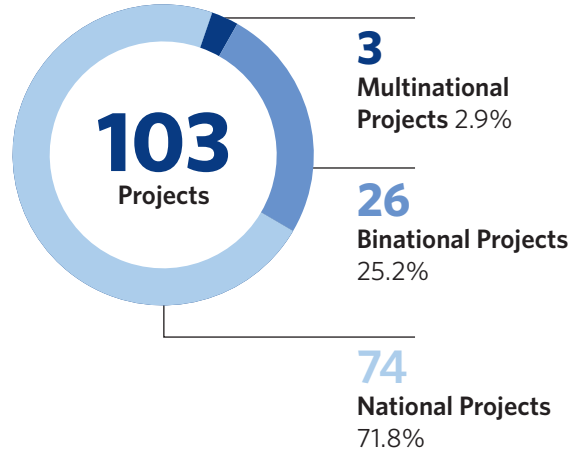


API COSIPLAN

Estimated Investment

US\$ million

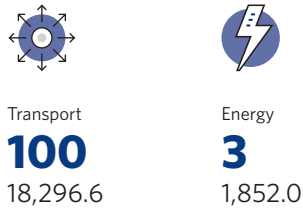
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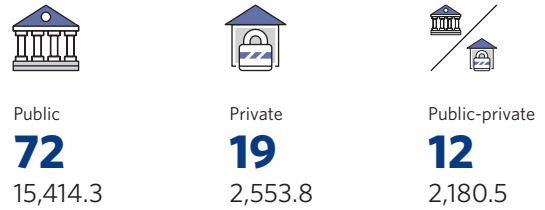
Projects by Stage



Projects by Sector

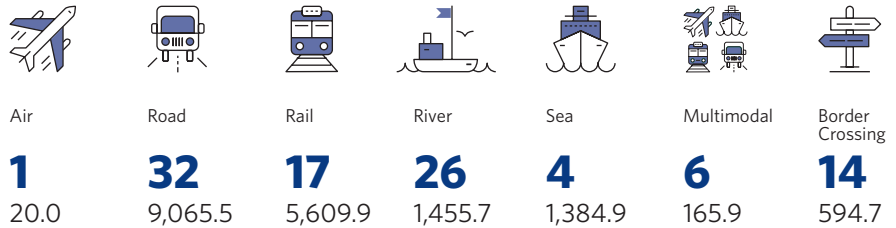


Projects by Type of Financing



Projects by Subsector

Transport



Energy



Projects by Country



ARGENTINA

21
4,477.2



BOLIVIA

12
569.5



BRAZIL

18
3,440.3



CHILE

5
1,708



COLOMBIA

9
3,173.9



ECUADOR

8
164.8



GUYANA

4
551.8



PARAGUAY

16
5,078.8



PERU

28
3,329.9



SURINAME

2
301.8



URUGUAY

9
529.7



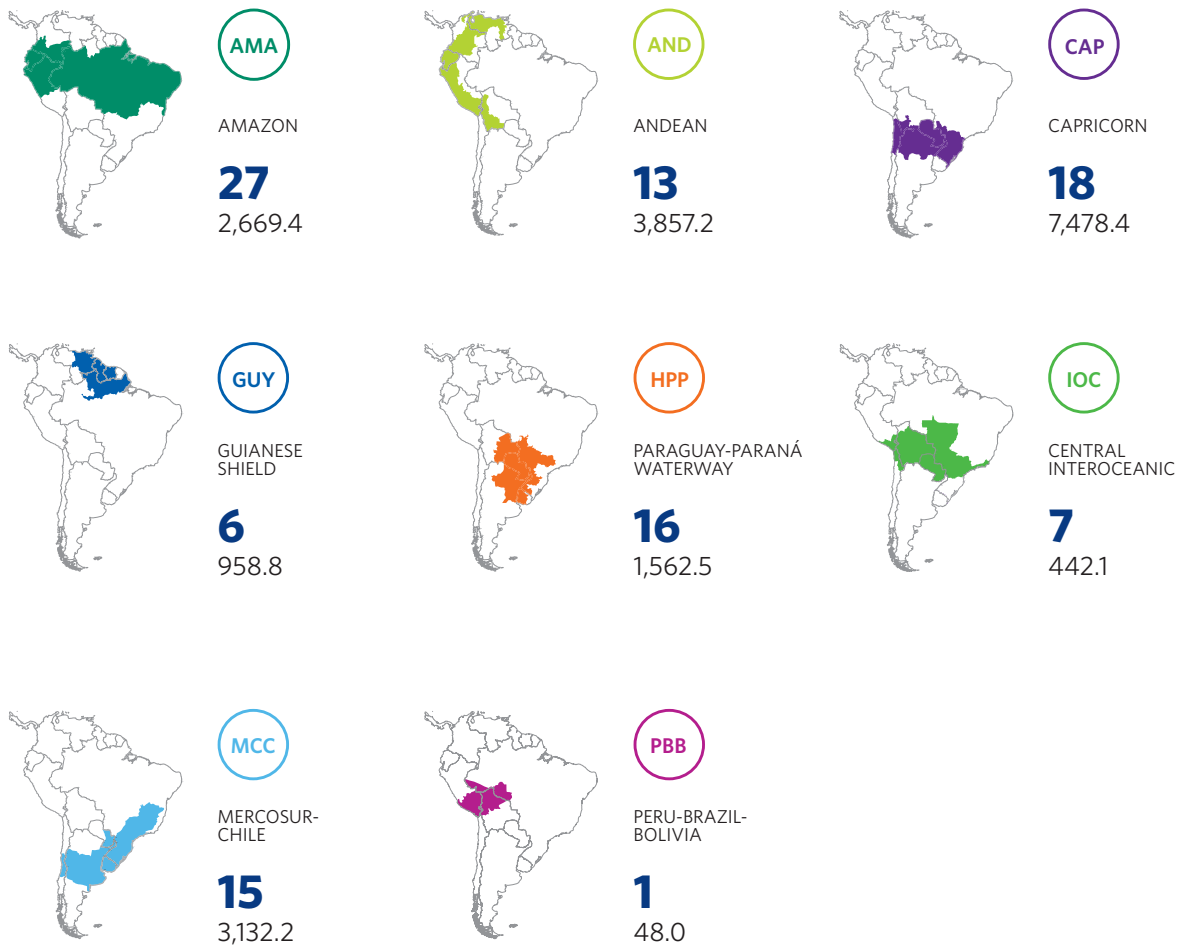
VENEZUELA

4
723.8

● Number of Projects

● US\$ million

Projects by Hub



● Number of Projects

● US\$ million

Chapter 1

API in 2016

This chapter describes the projects that make up API, taking into consideration their territorial scope, their technical characteristics, the sectors and subsectors involved, and their type of financing. Concerning the evolution of this Agenda, this chapter presents its progress status, the estimated date of completion of the projects, and an analysis of the projects already completed.

The Integration Priority Projects Agenda includes 31 structured projects made up of 103 individual projects from the COSIPLAN Portfolio, amounting to a total investment estimated at US\$20,149 million. Thus, API involves 18% of the projects in the whole COSIPLAN Portfolio and 11% of its estimated investment.⁽¹⁾











API STRUCTURED PROJECTS *US\$ million

API	Hub	Name	Estimated Investment*	Countries	Stage
1	AMA	PAITA - TARAPOTO - YURIMAGUAS ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS	388.1	PE	
2	AMA	CALLAO - LA OROYA - PUCALLPA ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS	2,219.5	PE	
3	AMA	NORTHEASTERN ACCESS TO THE AMAZON RIVER	61.8	BR - CO - EC - PE	
4	AND	CARACAS - BOGOTÁ - BUENAVENTURA / QUITO ROAD CORRIDOR	2,825.7	CO - EC - VE	
5	AND	COLOMBIA - ECUADOR BORDER INTERCONNECTION	319.2	CO - EC	
6	AND	COLOMBIA - VENEZUELA BORDER CROSSINGS CONNECTIVITY SYSTEM	16.0	CO - VE	
7	AND	DESAGUADERO BINATIONAL BORDER SERVICE CENTER (CEBAF)	29.9	BO - PE	
8	AND	AUTOPISTA DEL SOL EXPRESSWAY: IMPROVEMENT AND REHABILITATION OF THE SULLANA - AGUAS VERDES SECTION (INCLUDING TUMBES BYPASS)	666.3	PE	
9	CAP	CONSTRUCTION OF THE SALVADOR MAZZA - YACUIBA BINATIONAL BRIDGE AND BORDER CENTER	45.0	AR - BO	
10	CAP	ARGENTINA - BOLIVIA WEST CONNECTION	477.0	AR - BO	
11	CAP	PARANAGUÁ - ANTOFAGASTA BIOCEANIC RAILWAY CORRIDOR	5,325.2	AR - BR - CH - PY	
12	CAP	FOZ DO IGUAÇU - CIUDAD DEL ESTE - ASUNCIÓN - CLORINDA ROAD CONNECTION	779.2	AR - BR - PY	
13	CAP	ITAIPU - ASUNCIÓN - YACYRETÁ 500-KV TRANSMISSION LINE	852.0	BR - PY	
14	GUY	REHABILITATION OF THE CARACAS - MANAUS ROAD	407.0	BR - VE	
15	GUY	BOA VISTA - BONFIM - LETHEM - LINDEN - GEORGETOWN ROAD	250.0	BR - GU	
16	GUY	ROUTES INTERCONNECTING VENEZUELA (CIUDAD GUAYANA) - GUYANA (GEORGETOWN) - SURINAME (SOUTH DRAIN - APURA - ZANDERIJ - MOENGO - ALBINA), INCLUDING CONSTRUCTION OF THE BRIDGE OVER THE CORENTYNE RIVER	301.8	GU - SU - VE	
17	HPP	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE RIVERS OF THE PLATA BASIN	1,170.3	AR - BO - BR - PY - UY	
18	HPP	PARAGUAY - ARGENTINA - URUGUAY RAILWAY INTERCONNECTION	277.3	AR - PY - UY	
19	HPP	REHABILITATION OF THE CHAMBERLAIN - FRAY BENTOS RAILWAY BRANCH LINE	100.0	UY	
20	HPP	NUEVA PALMIRA BELTWAY AND PORT ACCESS ROADS NETWORK	15.0	UY	
21	IOC	PASSENGER AND CARGO HUB AIRPORT FOR SOUTH AMERICA (VIRU VIRU, SANTA CRUZ, INTERNATIONAL HUB AIRPORT)	20.0	BO	

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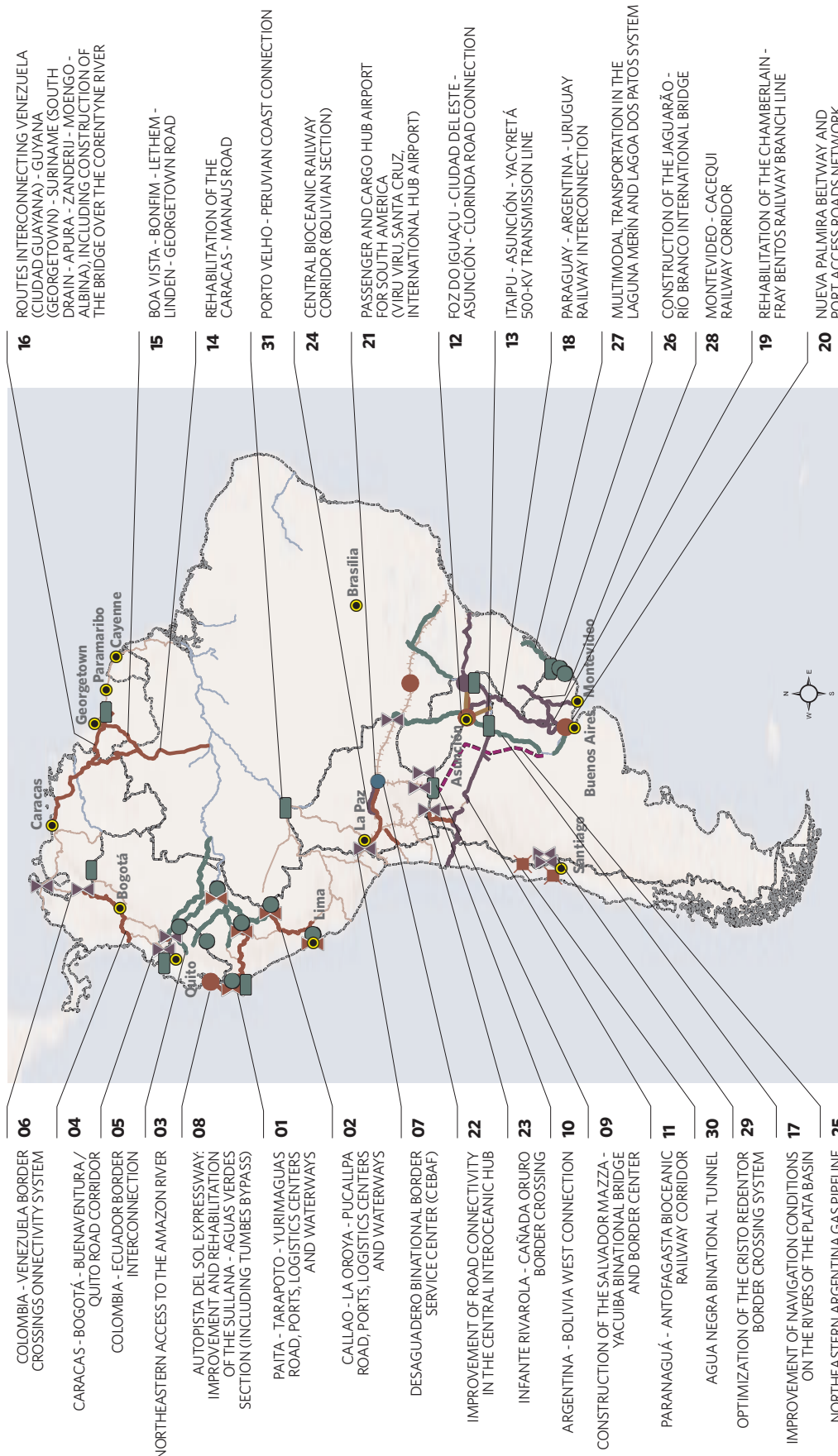
¹ The COSIPLAN Project Portfolio is made up of 581 physical integration projects for a total investment estimated at US\$191,420 million.

>>

API	Hub	Name	Estimated Investment*	Countries	Stage
22	I0C	IMPROVEMENT OF ROAD CONNECTIVITY IN THE CENTRAL INTEROCEANIC HUB	413.5	BO - BR	
23	I0C	INFANTE RIVAROLA - CAÑADA ORURO BORDER CROSSING	1.9	BO - PY	
24	I0C	CENTRAL BIOCEANIC RAILWAY CORRIDOR (BOLIVIAN SECTION)	6.7	BO	
25	M0C	NORTHEASTERN ARGENTINA GAS PIPELINE	1,000.0	AR - BO	
26	M0C	CONSTRUCTION OF THE JAGUARÃO - RÍO BRANCO INTERNATIONAL BRIDGE	93.5	BR - UY	
27	M0C	MULTIMODAL TRANSPORTATION IN THE LAGUNA MERÍN AND LAGOA DOS PATOS SYSTEM	20.8	BR - UY	
28	M0C	MONTEVIDEO - CACEQUI RAILWAY CORRIDOR	139.9	BR - UY	
29	M0C	OPTIMIZATION OF THE CRISTO REDENTOR BORDER CROSSING SYSTEM	278.0	AR - CH	
30	M0C	AGUA NEGRA BINATIONAL TUNNEL	1,600.0	AR - CH	
31	P0B	PORTO VELHO - PERUVIAN COAST CONNECTION	48.0	BR - PE	
TOTAL			20,148.6		

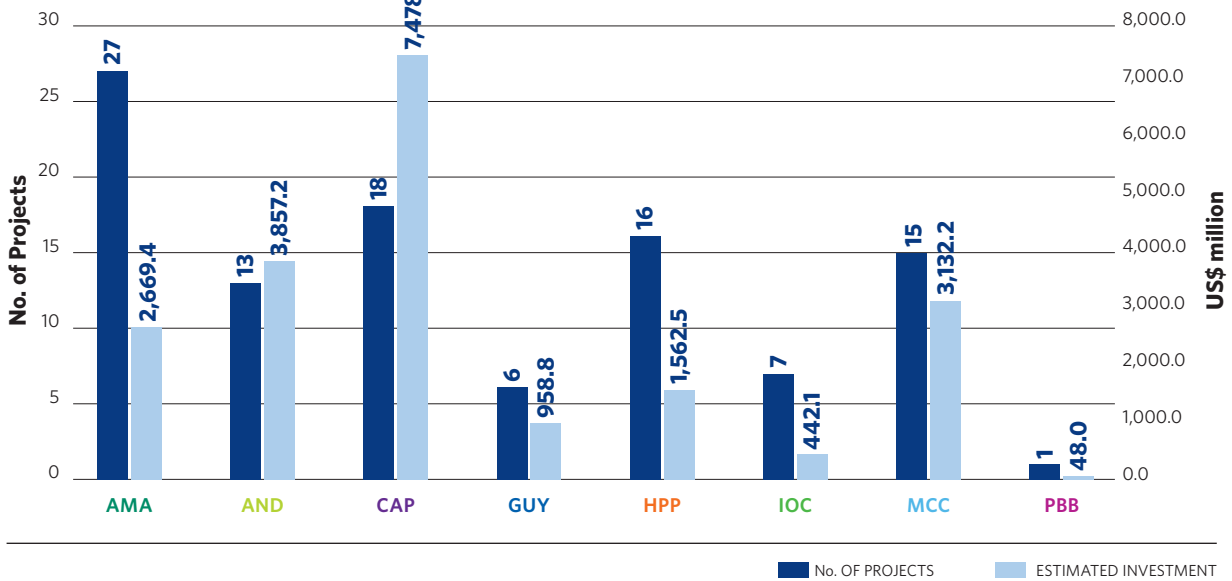


API PROJECTS



The Hubs with the greatest share in API are the Amazon Hub —26% if the number of individual projects is considered— and the Capricorn Hub —37% if the estimated investment is taken into account. The share of the Amazon and Paraguay-Paraná Waterway Hubs in relation to the estimated investment amount is substantially lower than their share in terms of number of projects, whereas the reverse holds for the Andean and Capricorn Hubs.

API HUB-BASED BREAKDOWN



1.1. Territorial Scope of the Projects

When analyzing the API projects by country, it is interesting to note that the countries with the greatest projected investments in API are not necessarily the ones with a greater GDP, population or territory. The first five countries with the highest estimated investment in API are Paraguay, Argentina, Brazil, Peru and Colombia.

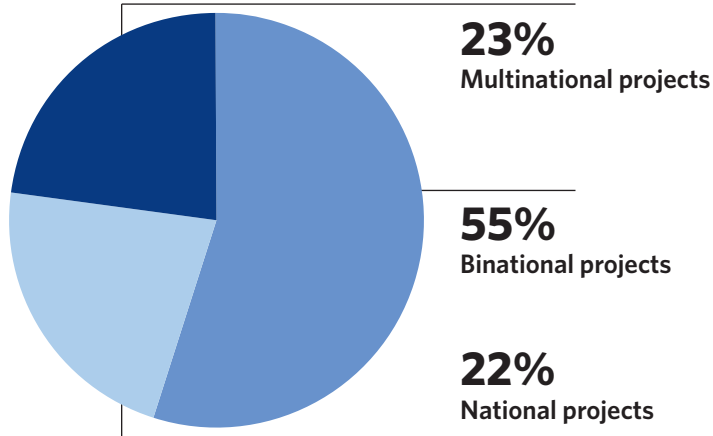
API COUNTRY-BASED BREAKDOWN *US\$ million

Country	No. of Projects	% of Projects	Estimated Investment*	% of Investment
Argentina	21	15.4	4,477.2	18.6
Bolivia	12	8.8	569.5	2.4
Brazil	18	13.2	3,440.3	14.3
Chile	5	3.7	1,708.0	7.1
Colombia	9	6.6	3,173.9	13.2
Ecuador	8	5.9	164.8	0.7
Guyana	4	2.9	551.8	2.3
Paraguay	28	20.6	5,078.8	21.1
Peru	16	11.8	3,329.9	13.8
Suriname	2	1.5	301.8	1.3
Uruguay	9	6.6	529.7	2.2
Venezuela	4	2.9	723.8	3.0

Red: Less than 6% of API total investment. Green: From 6% to 20% of API total investment.

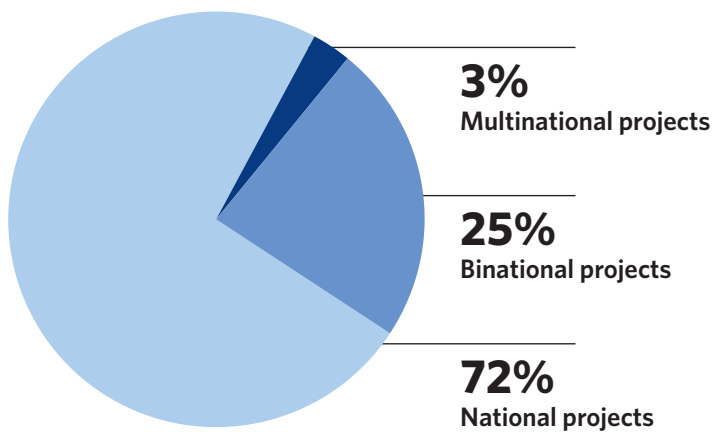
The impact of the API structured projects is regional, as 78% of them are binational or multinational. This is because of the way national individual projects were articulately arranged by countries.

TERRITORIAL SCOPE OF THE STRUCTURED PROJECTS

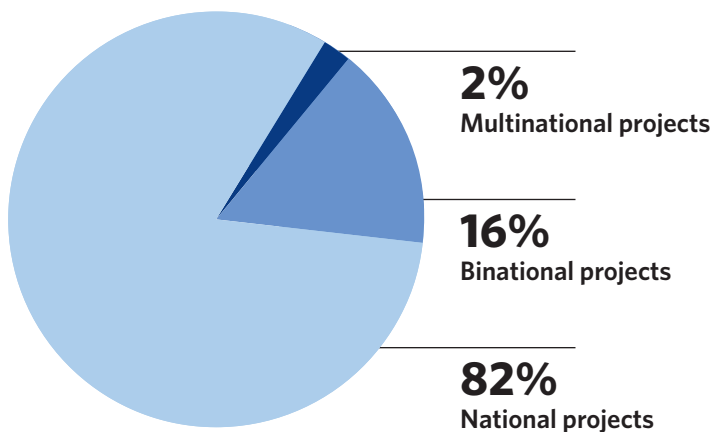


If the individual projects are considered, most of them are national: 72% of the total projects, accounting for 83% of the total estimated investment.

TERRITORIAL SCOPE OF API INDIVIDUAL PROJECTS



TERRITORIAL SCOPE OF THE INVESTMENT IN API INDIVIDUAL PROJECTS



The Hubs with most of the binational or multinational individual projects are the Guianese Shield, the MERCOSUR-Chile, and the Paraguay-Paraná Waterway Hubs, with approximately 74%, 55%, and 18%, respectively, of the estimated investment in these kinds of projects.

The Capricorn, Andean, Central Interoceanic and Amazon Hubs also include binational and multinational individual projects, accounting for less than 8.6% of the estimated investment.

TERRITORIAL SCOPE OF THE INDIVIDUAL PROJECTS BY HUB in percentage

	AMA	AND	CAP	GUY	HPP	IOC	MCC	PBB
National	92.6	61.5	66.7	50.0	62.5	71.4	66.7	100.0
Binational	3.7	38.5	33.3	33.3	31.3	28.6	33.3	0.0
Multinational	3.7	0.0	0.0	16.7	6.2	0.0	0.0	0.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TERRITORIAL SCOPE OF THE INVESTMENT IN INDIVIDUAL PROJECTS BY HUB in percentage

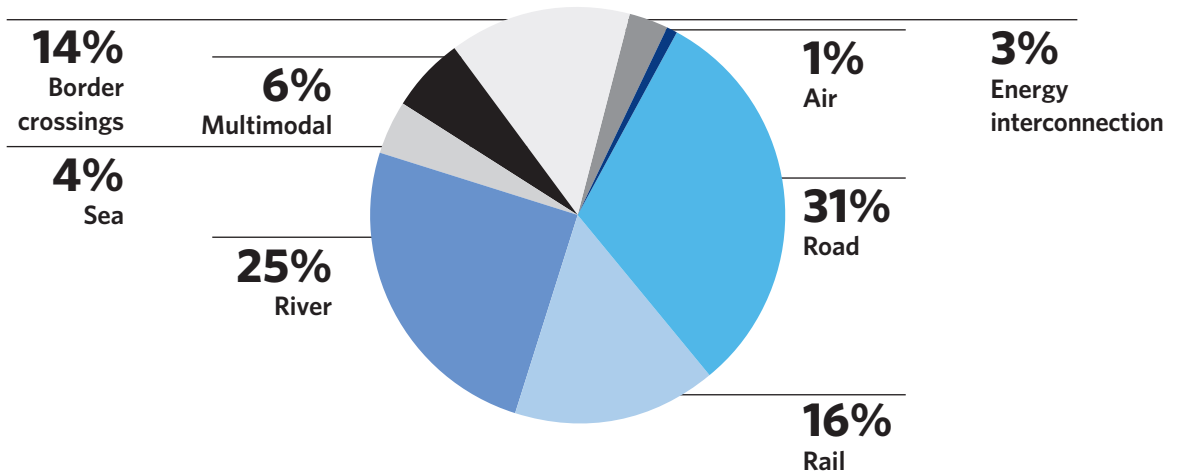
	AMA	AND	CAP	GUY	HPP	IOC	MCC	PBB
National	99.2	96.0	91.4	26.0	82.4	99.1	44.8	100.0
Binational	0.2	4.0	8.6	42.6	15.1	0.9	55.2	0.0
Multinational	0.6	0.0	0.0	31.4	2.5	0.0	0.0	0.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1.2. Sectors and subsectors

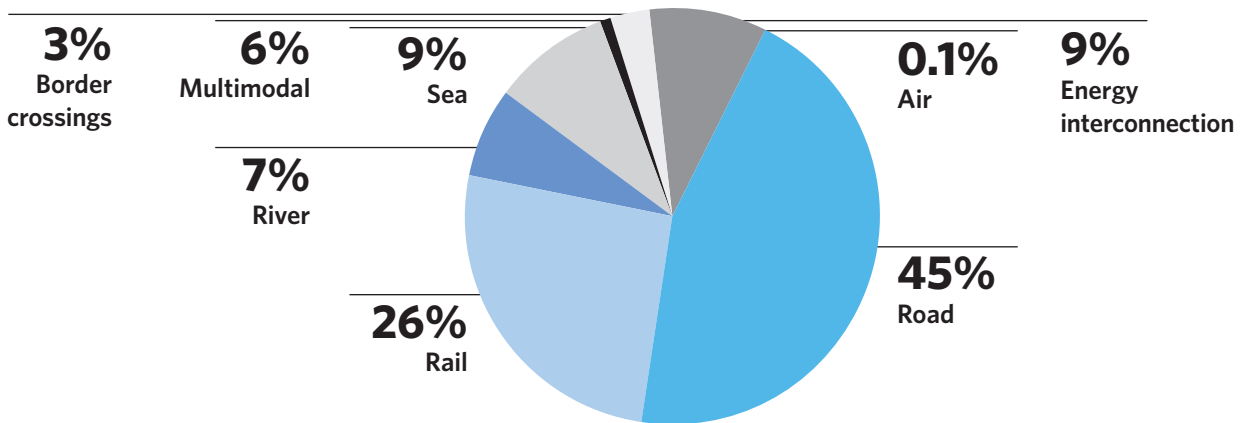
As already explained, API is basically a project portfolio intended to improve physical connectivity in the region. Thus, it is no surprising that most of its projects are concerned with the different modes of transport. In fact, 97% of the API individual projects fall in the transport sector and demand 91% of the total estimated investment. The other 3% falls in the energy sector and accounts for an estimated investment of 9%. Although the latter are few in number, these projects require a considerable investment on account of their scope and technical characteristics.

Regarding the subsector-based breakdown of the individual projects, road projects account for 31% of API and almost half of its total estimated investment (45%). River projects represent almost a quarter of the API projects and account for only 7% of the estimated investment amount of the Agenda. Similarly, border crossing projects account for 14% in terms of number but only 3% in terms of API total estimated investment. As for rail projects, accounting for 17% in terms of number, they demand 28% of the estimated investment due to the nature of the works involved.

API INDIVIDUAL PROJECTS BY SUBSECTOR



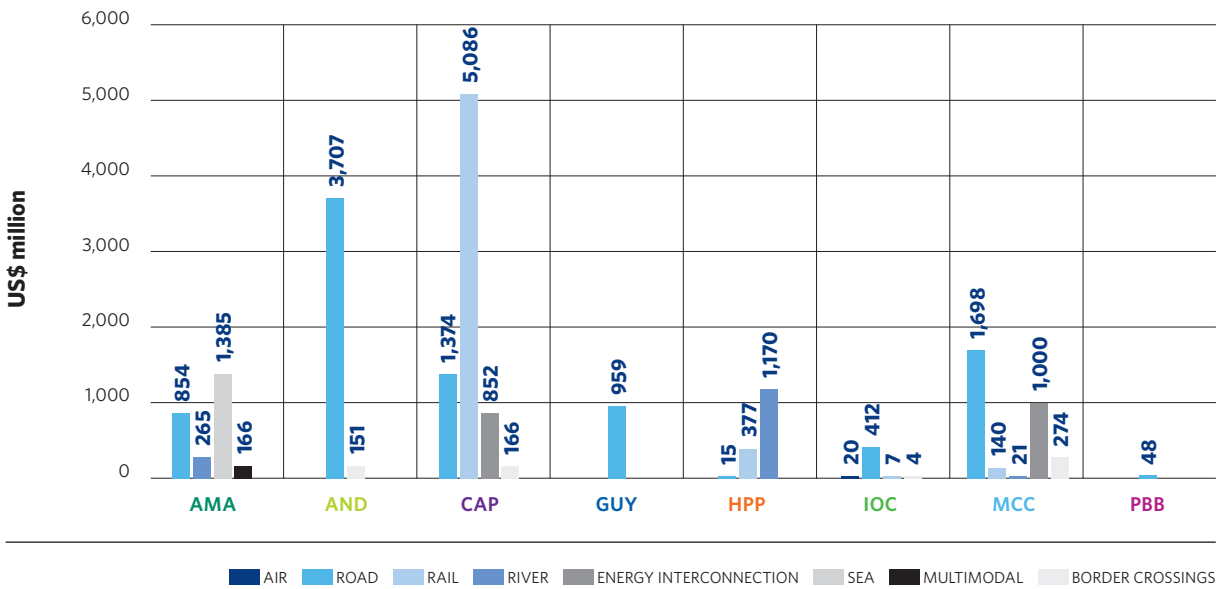
INVESTMENT IN THE API INDIVIDUAL PROJECTS BY SUBSECTOR



NUMBER OF INDIVIDUAL PROJECTS BY SUBSECTOR AND HUB

Subsector	AMA	AND	CAP	GUY	HPP	IOC	MCC	PBB
Air						1		
Road	6	8	4	6	1	3	3	1
Rail			9		5	1	2	
River	11				10		5	
Energy interconnection			2				1	
Sea	4							
Multimodal	6							
Border crossings		5	3			2	4	
TOTAL	27	13	18	6	16	7	15	1

ESTIMATED INVESTMENT BY SUBSECTOR AND HUB



1.3. API Technical Characteristics

The individual project files within the COSIPLAN Project Information System (SIP) include specific descriptors by sector, subsector and type of works in order to identify in standardized terms the objectives of each project, report important technical features in an aggregate manner and produce indicators by country, project group or Integration and Development Hub.

Thanks to this information incorporated by the countries to the SIP, the technical characteristics of API can be measured.



AIR SUBSECTOR

- Expansion of one freight and passenger airport.



ROAD SUBSECTOR

- Paving, rehabilitation, improvement and upgrade of more than **7,755.1km of road corridors**
- Construction of **two beltways**, one of them 8.5-km long and the other one 46.1 km-long
- Construction of a **bypass** made up of a 18.65-km long four-lane road, two road interchanges, two grade-separated junctions, and two bridges
- Upgrade of a **road interchange**
- Construction of a **road junction** and a **roundabout**
- Upgrade of urban streets for direct access to a port
- Construction of **two tunnels**, one of which is binational and 13.9 km long
- Construction, rehabilitation or improvement of **54 bridges**, including: a bimodal bridge, a 1,084-m long one, a 760-m long one, a 400-meter long one, an 80-m long one, a 71-meter long one, a 30-m long one, and one including a freight yard



RAIL SUBSECTOR

- Construction and rehabilitation of **7,154.4 km of rail corridors**



RIVER SUBSECTOR

- Modernization and construction of **four river ports**
- Construction of **two river port terminals**
- Upgrade or construction of **12 docks**
- Improvement of navigation conditions along **8,508 km of waterways**
- Dredging works, upgrade of corridors and complementary works in **two lakes and their tributaries**
- Implementation of a **water level prediction system**



SEA SUBSECTOR

- Upgrade and expansion of **four sea ports**



MULTIMODAL SUBSECTOR

- Construction of **six logistics transfer centers**, one with an area of 277 ha and another one with an area of 150 ha



BORDER CROSSINGS SUBSECTOR

- Design of **one management control system** made up of interconnected management stations
- Construction and improvement of **12 border control and border service centers**, including: one border center for integrated control operations in a single customs office and complementary works involving 1,031 m²; a border center with an area of 20 ha, another with 24.8 ha, another with 32 ha and the fourth with 47 ha; three binational centers



ENERGY INTERCONNECTION SUBSECTOR

- Improvement of **two 500-kV transmission lines running along 710.9 km**
- Construction of a **1,500-km, 24-inch diameter trunk gas pipeline**

1.4. API Financing

The financing defined for the API projects is provided mostly by the public sector (76% of the total estimated investment), while the other investments in the works come from the private sector (13%) and public-private initiatives (11%).

TYPE OF FINANCING OF THE API PROJECTS *US\$ million

Type of financing	No. of Projects	% of Projects	Estimated Investment*	% of Investment
Private	19	18.0	2,553.8	13.0
Public	72	70.0	15,414.3	76.0
Public-private	12	12.0	2,180.5	11.0
TOTAL	103	100.0	20,148.6	100.0

Regarding the sources of financing, it is worth noting the role played by the national treasuries. They finance 44% of the total works involved in API, which shows a great commitment of the countries in the region to the progress of South American physical integration.

Private initiatives, which support 15% of the works involved in API, rank second, while the remaining 29% of the projects have no source of financing allocated.

In addition, it is worth mentioning that the strategic importance of the API projects and the priority attached to them by the countries, by international organizations, and particularly by the CCT institutions (the IDB, CAF and FONPLATA) are contributing to carrying out pre-investment studies and financing the works: taken together, the three institutions are financing the pre-execution or execution stage of 17 of the 31 API structured projects.

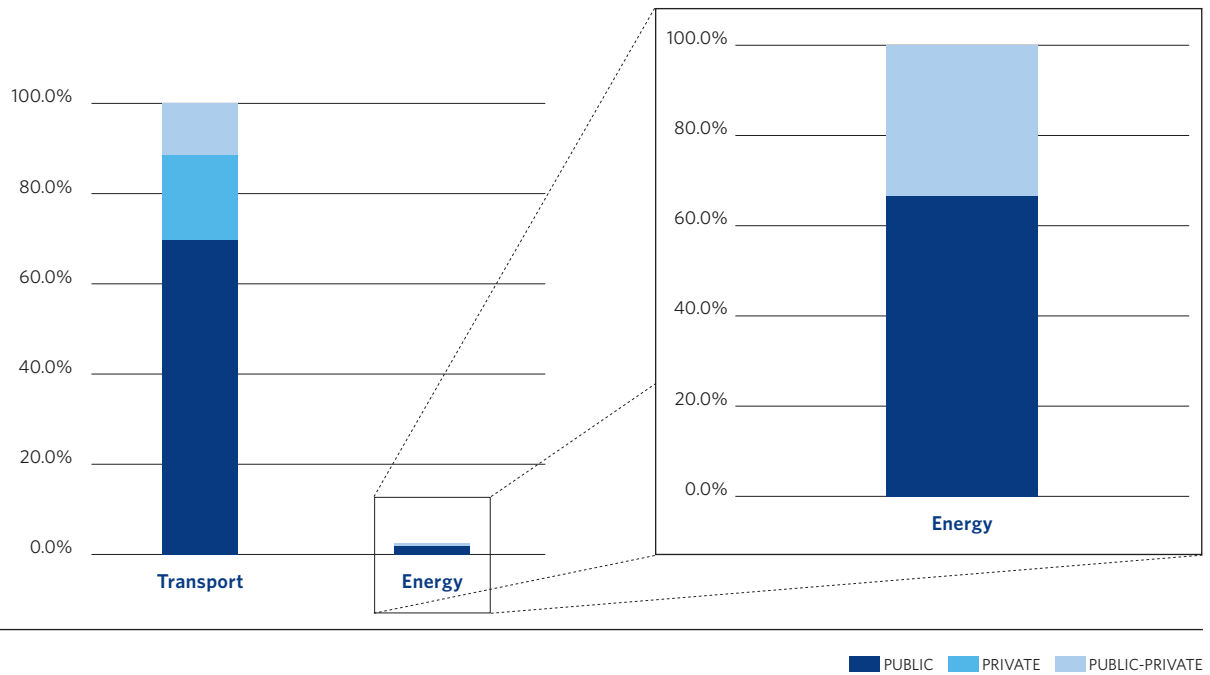
SOURCE OF FINANCING OF THE API PROJECTS *US\$ million

	Estimated Investment*	Made Investment*
To be defined	5,811.5	
Private banks	8.0	
IDB	499.2	5.2
Binational	231.0	
CAF	388.3	
FOCEM	533.6	400.0
FONPLATA	2.4	
Chinese Government	400.0	
Private	3,038.2	735.4
National Treasury	8,801.6	186.1
Provincial Treasury	355.0	
Miscellaneous	79.8	
TOTAL	20,148.6	1,326.7

Public financing predominates regardless of the sector. In the transport sector, it finances 70% of the projects.

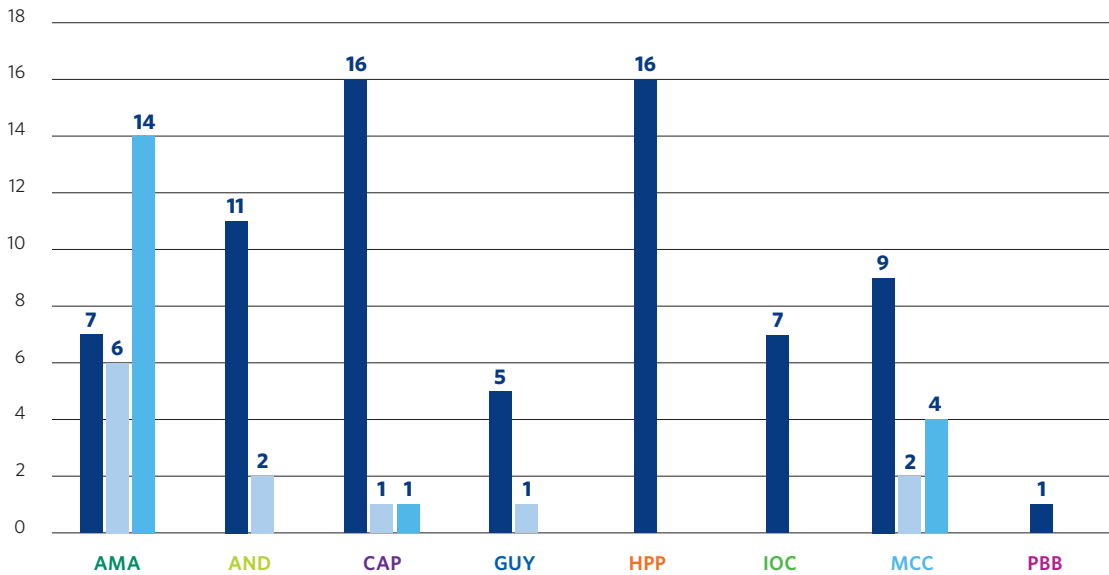
Private participation prevails in transport projects, both in its strict sense or mixed with the public sector. Private-public initiatives also participate in the energy sector, though with much smaller amounts in absolute terms, as can be seen in the figures below.

TYPE OF FINANCING BY SECTOR



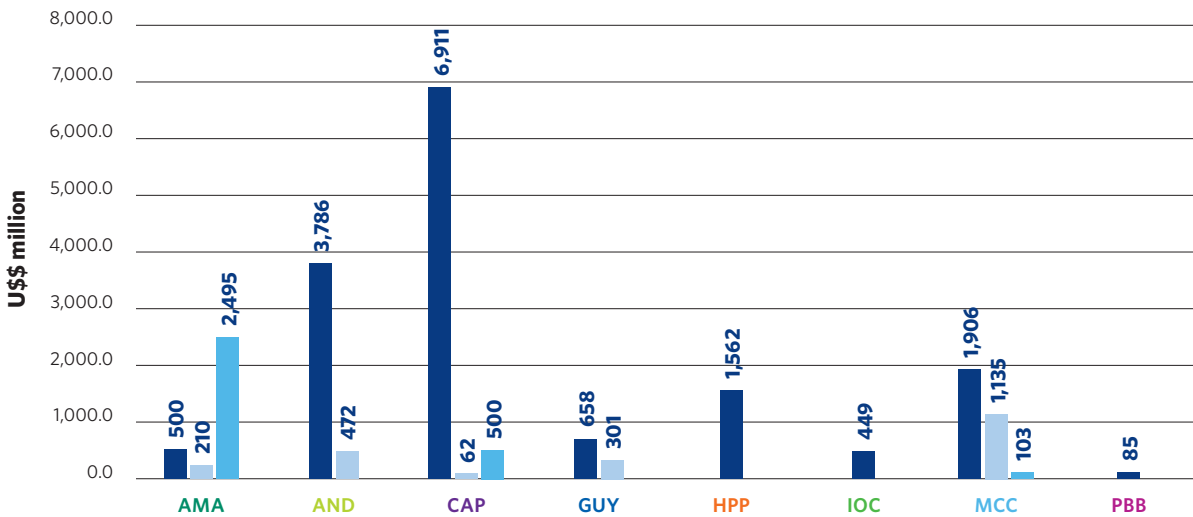
As regards the financing by Hub, the Amazon Hub, specifically Peruvian national projects in the river, sea, road and multimodal subsectors, receive the most private investment. The MERCOSUR-Chile Hub also hosts API works financed by the private sector, but for a much smaller estimated amount; 35% of the investments in this Hub come from public-private initiatives, which accounts for most of this type of investment in API as a whole.

NUMBER OF INDIVIDUAL PROJECTS AND TYPE OF FINANCING BY HUB



■ PUBLIC ■ PRIVATE ■ PUBLIC-PRIVATE

TYPE OF FINANCING BY HUB








■ PUBLIC ■ PRIVATE ■ PUBLIC-PRIVATE

1.5. The Projects with the Highest Estimated Investment

The five API structured projects that require the most financing account for approximately 65% of the whole amount estimated for the works in the Agenda and are located in five different Hubs (Capricorn, Andean, Amazon, MERCOSUR-Chile and Paraguay-Paraná Waterway).

THE FIVE API STRUCTURED PROJECTS WITH THE HIGHEST ESTIMATED INVESTMENT *US\$ million

API	Name	Hub	Estimated Investment*	Countries	Stage
11	PARANAGUÁ - ANTOFAGASTA BIOCEANIC RAILWAY CORRIDOR	CAP	5,325	AR - BR - CH - PY	
4	CARACAS - BOGOTÁ - BUENAVENTURA / QUITO ROAD CORRIDOR	AND	2,826	CO - EC - VE	
2	CALLAO - LA OROYA - PUCALLPA ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS	AMA	2,219	PE	
30	AGUA NEGRA BINATIONAL TUNNEL	MCC	1,600	AR - CH	
17	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE RIVERS OF THE PLATA BASIN	HPP	1,170	AR - BO - BR - PY - UY	



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

1.5.1. Paranaguá - Antofagasta Bioceanic Railway Corridor

The Paranaguá - Antofagasta Bioceanic Railway Corridor is the first structured project in terms of investment in the entire API. This rail corridor is intended to enable the movement of cargo across the continent, from the Brazilian Atlantic coast through Paraguay, Argentina and Bolivia, up to the Chilean Pacific coast. The works involve seven rail corridors (along more than 2,700 km) and two bridges. They are currently at the execution stage.

One of the nine individual projects that make up this structured project is the one with the highest estimated investment in all API: the Construction of the Ciudad del Este - Ñeembucú Railway, currently at the pre-execution stage.

1.5.2. Caracas - Bogotá - Buenaventura / Quito Road Corridor

This structured project is the second API project with the greatest investment. This corridor, linked to waterways and multimodal projects, can connect the Pacific and Atlantic oceans, representing an alternative to the Panama Canal for the flow of goods. The project involves works along almost 1,000 km including also tunnels and bridges. It is expected to be finished in 2022.

One of the two individual projects that make up this structured project ranks second in terms of estimated investment in API: the Bogotá - Buenaventura Road Corridor, currently at the execution stage, scheduled to be completed in August 2018.

1.5.3. Callao - La Oroya - Pucallpa Road, Ports, Logistics Centers and Waterways

This API structured project is the third project with the highest investment in all the Agenda. All the individual projects included in it are Peruvian. It is also known as the "Central Branch of the Amazon Hub" and its purpose is to connect the Callao port with different destinations on the Pacific ocean and to enable access to Manaus (Brazil) and, further on, to the Atlantic ocean through the Amazon river. The project is at the execution stage and is scheduled to be completed in 2020.

Of the eleven individual projects that make up this structured project, two are among the first ten with the highest investment in API,

and are at the execution stage: Modernization of El Callao Port (New Container Dock) and Improvement of Tingo María - Pucallpa Road.

1.5.4. Agua Negra Binational Tunnel

The fourth API structured project with the greatest estimated investment is the Agua Negra Binational Tunnel, which belongs to the MERCOSUR-Chile Hub. In addition to being the only tunnel included in API, this is an important engineering undertaking on account of its technical solution (two parallel tunnels, one for each direction of traffic), its length (14 km) and the height above sea level at which the connection will be made (4,085 m.a.s.l.). The project is at the pre-execution stage.








Argentina and Chile developed, within the framework of COSIPLAN, an Integration Territorial Program (PTI) associated with this work. At present, both countries are executing the PTI Implementation Plan with the purpose of preparing the area of influence to enhance the positive effects and mitigate the negative impacts of the works on the territory, considering economic, social and environmental issues.⁽²⁾

1.5.5. Improvement of Navigation Conditions on the Rivers of the Plata Basin

This API structured project ranks fifth in terms of estimated investment in the Agenda. It involves waterway projects to reduce freight transportation costs and contribute to improving competitiveness in the region. In addition, it seeks to strengthen the sustainable development of the Plata basin. This project is at the execution stage and is expected to be completed in 2020.

One of the ten individual projects that make up this structured project ranks fifth in terms of API investment: Improvement of Navigation Conditions on the Tietê River, currently at the execution stage and scheduled to be completed in 2017.




THE TEN API INDIVIDUAL PROJECTS WITH THE HIGHEST ESTIMATED INVESTMENT *US\$ million

Code	Name	Type of Financing	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP29	CONSTRUCTION OF CIUDAD DEL ESTE - ÑEEMBUCÚ RAILWAY	Public		2,800.0	PY	January 2022
AND07	BOGOTÁ - BUENAVENTURA ROAD CORRIDOR	Private		1,949.9	CO	August 2018
MCC110	AGUA NEGRA BINATIONAL TUNNEL	Public		1,600.0	AR - CH	December 2022
AND05	BOGOTÁ - CÚCUTA ROAD CORRIDOR	Public-private		875.7	CO	December 2021
HPP19	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE TIETÊ RIVER	Public		800.0	BR	February 2017
AMA31	MODERNIZATION OF EL CALLAO PORT (NEW CONTAINER DOCK)	Public		704.8	PE	March 2018
CAP18	CONCESSION FOR THE IMPROVEMENT OF ROUTES No. 2 AND 7 (ASUNCIÓN - CIUDAD DEL ESTE)	Public		500.0	PY	December 2020

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² For more information, see http://www.iirsa.org/admin_iirsa_web/Uploads/Documents/PTITUNELBINACIONALAGUANEGRA.pdf

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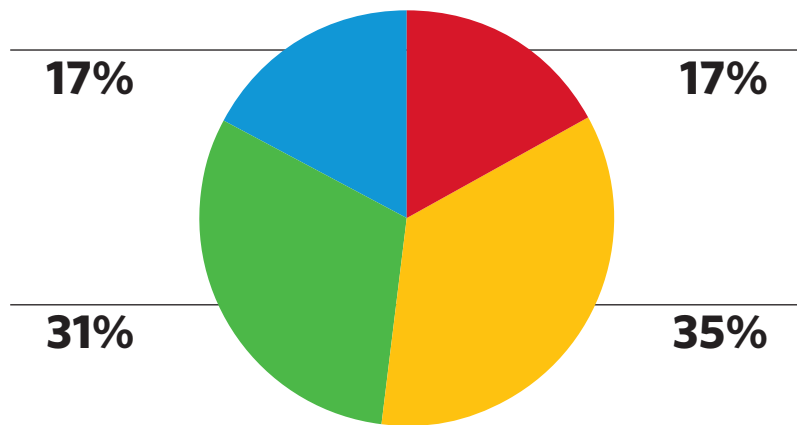
Code	Name	Type of Financing	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND99	UPGRADE OF SULLANA - TUMBES - TURN-OFF TO THE INTERNATIONAL BYPASS ROAD TO A FOUR-LANE ROAD	Public		472.3	PE	ND
AMA26	IMPROVEMENT OF TINGO MARÍA - PUCALLPA ROAD	Public		438.3	PE	February 2017
GUY01	REHABILITATION OF THE CARACAS - MANAUS ROAD	Public		407.0	BR - VE	February 2017
Total				10,548.0		

 PROFILING
  PRE-EXECUTION
  EXECUTION
  COMPLETED

1.6. API Implementation Status

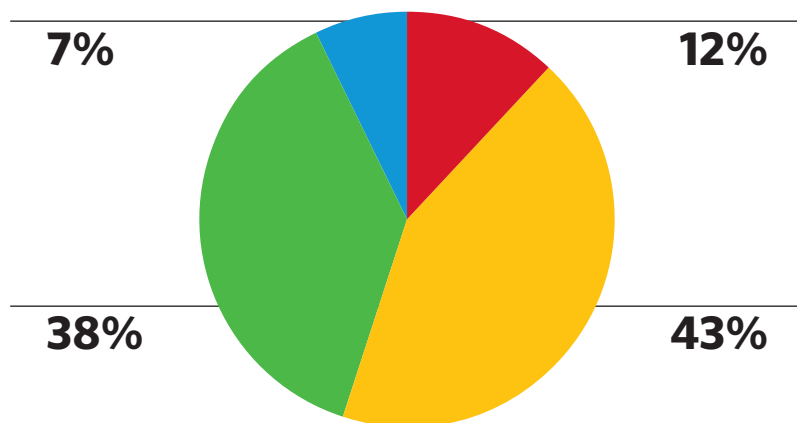
Most API individual projects are at the pre-execution stage (35%), while API estimated investment is concentrated in the projects at the execution stage (31%).

API INDIVIDUAL PROJECTS VIS-À-VIS THEIR STAGE



 PROFILING
  PRE-EXECUTION
  EXECUTION
  COMPLETED

INVESTMENT IN API INDIVIDUAL PROJECTS VIS-À-VIS THEIR STAGE



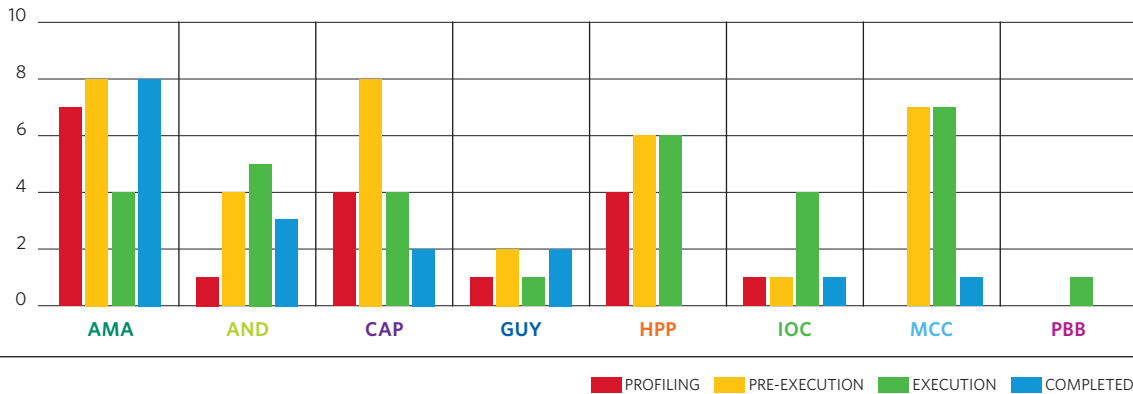
 PROFILING
  PRE-EXECUTION
  EXECUTION
  COMPLETED

The completed individual projects account for 17% of API and are distributed in all the Hubs, except for the Paraguay-Paraná Waterway and Peru-Brazil-Bolivia Hubs. The Hubs that received the greatest investment for completed individual projects since the creation of API are the Amazon and the Capricorn Hubs.

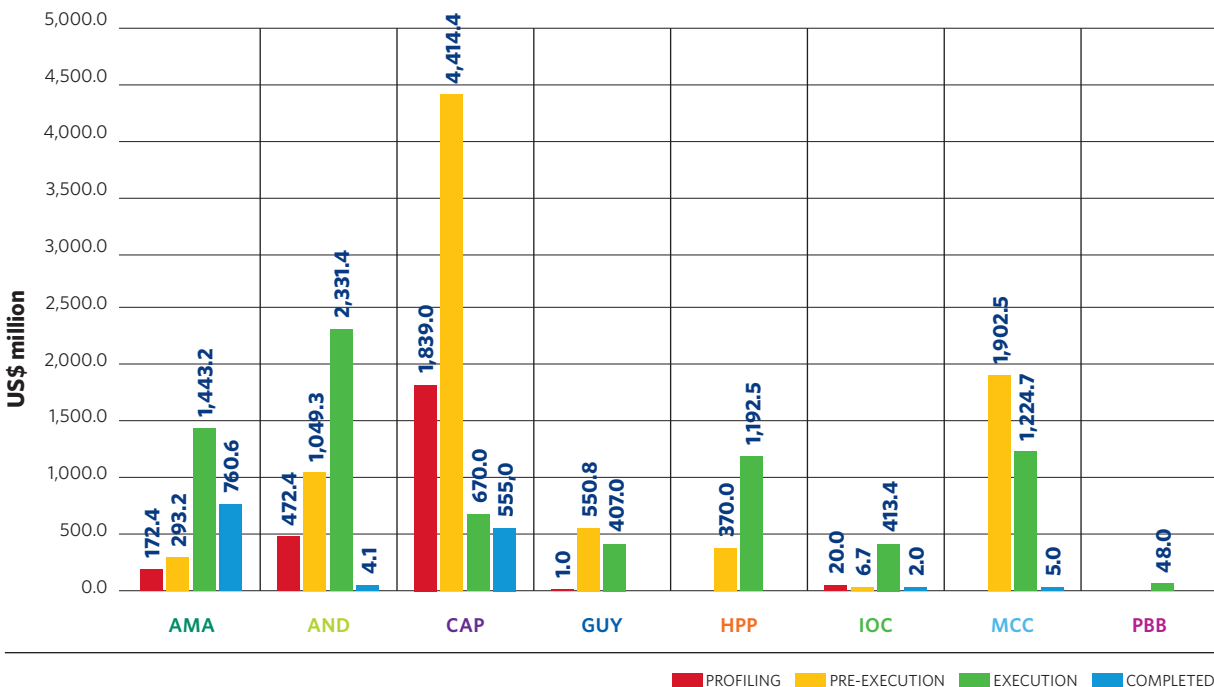
The Capricorn Hub hosts a great number of projects at the profiling and pre-execution stages in terms of number of projects and investment required, followed by the Amazon and Paraguay-Paraná Waterway Hubs. The Capricorn and Amazon Hubs are the ones with most projects at the pre-execution stage, with eight each.

All the Hubs present projects in execution. At present, the Andean and Amazon Hubs are the ones with the highest investment made at this stage, followed by the MERCOSUR-Chile and the Paraguay-Paraná Waterway Hubs in terms of number of projects and, to a lesser extent, of estimated investment amounts. The MERCOSUR-Chile and Peru-Brazil-Bolivia Hubs are the only ones that do not have any project at the profiling stage.

NUMBER OF INDIVIDUAL PROJECTS AND THEIR STAGE BY HUB



INVESTMENT AND STAGES BY HUB



On the basis of the distribution of the projects among each stage and of their degree of progress within each sub-stage, the following conclusions can be drawn:

- In the case of the pre-execution stage, the life cycle schedule of 28 of the 36 projects has been completed. Of these 28 projects, 12 are at an advanced level as their studies have been completed and approved, the permits have been granted, and the financing for commencing the works has been secured.
- In the case of the execution stage, the life cycle schedule of only two of the 24 projects has been completed, and these two projects are at an advanced level, i.e. more than half of the works involved have been completed, while the other 22 have not reached such level.

LIFE CYCLE STAGES AND SUB-STAGES

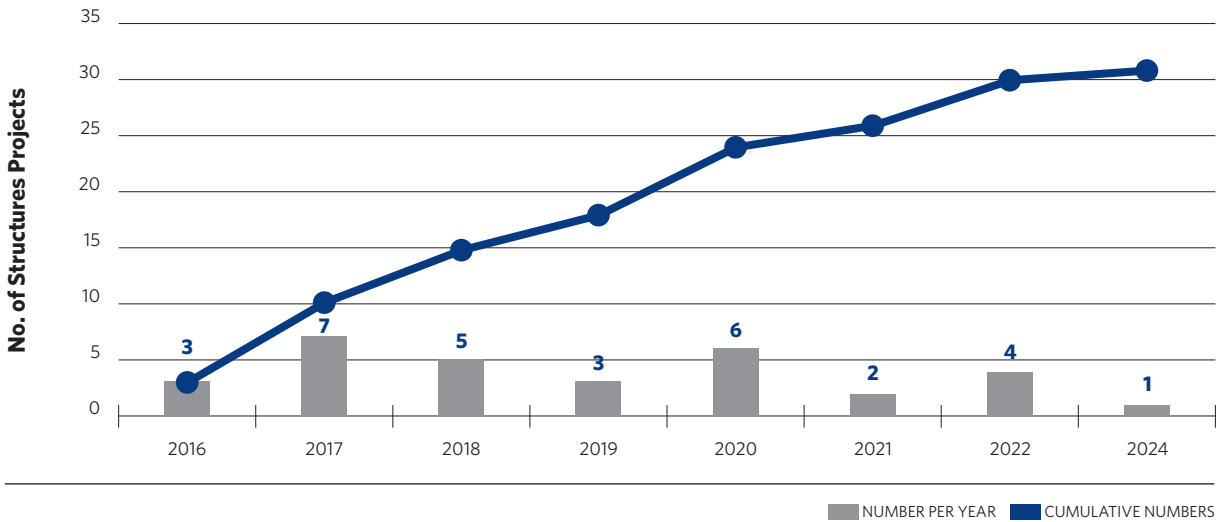
	Profiling 17% 18	Pre-execution ⁽³⁾ 35% 36					Execution 31% 32				Completed 17% 17
	Initial status	Resources for studies	Studies underway	Approved studies	Permits granted	Resources for works	1 st quarter of works	2 nd quarter of works	3 rd quarter of works	4 th quarter of works	Works handed over
% and No. of Projects (schedule completed)⁽¹⁾	55%	33%	11%	14%	20%	0%	50%	19%	6%	0%	71%
	10	12	4	5	7	0	16	6	2	0	12
% and No. Projects (not scheduled)⁽²⁾	45%	22%					25%				29%
	8	8					8				5

- (1) The values shown for each stage/sub-stage represent the percentage and number of the projects whose life cycle schedule has been completed. The total percentage (100%) is based on the total projects in each stage.
- (2) The values shown for each stage represent the percentage and number of the projects whose life cycle schedule has not been completed. The total percentage (100%) is based on the total projects in each stage.
- (3) According to the Project Life Cycle Scheduling Methodology (Chapter 4), the scope of the pre-execution sub-stages is as follows:
- **Resources for studies:** This sub-stage will be deemed completed when the financial resources needed to carry out the studies are available and all the institutional arrangements to start such studies (e.g. awarding them through tender processes) have been made.
 - **Studies underway:** Studies will be considered to be completed when the study representing the maximum level required for the project concerned to move to the "approved studies" sub-stage has been completed.
 - **Approved studies:** This sub-stage will be deemed completed upon approval of all the studies required by the project.
 - **Permits granted:** This sub-stage will be deemed completed only when all permits have been granted and/or all the institutional formalities required for the project to move to the execution stage have been carried out.
 - **Resources for works:** This sub-stage will be deemed completed when the project has been allocated the financial resources for executing the works and the required institutional formalities have been carried out.

1.7. Estimated Completion of the Projects

With 2016 already over, no API structured project has been completed. However, it is estimated that almost all API projects (96%) will be completed within schedule, i.e. in 2022. In the next three years, almost half of the API structured projects will be completed.

ESTIMATED COMPLETION OF THE STRUCTURED PROJECTS



This estimation regarding the completion of structured projects results from the information provided on each of the individual projects that make them up. In other words, the last completion date of the most delayed project is the one taken as the completion date of the structured project.

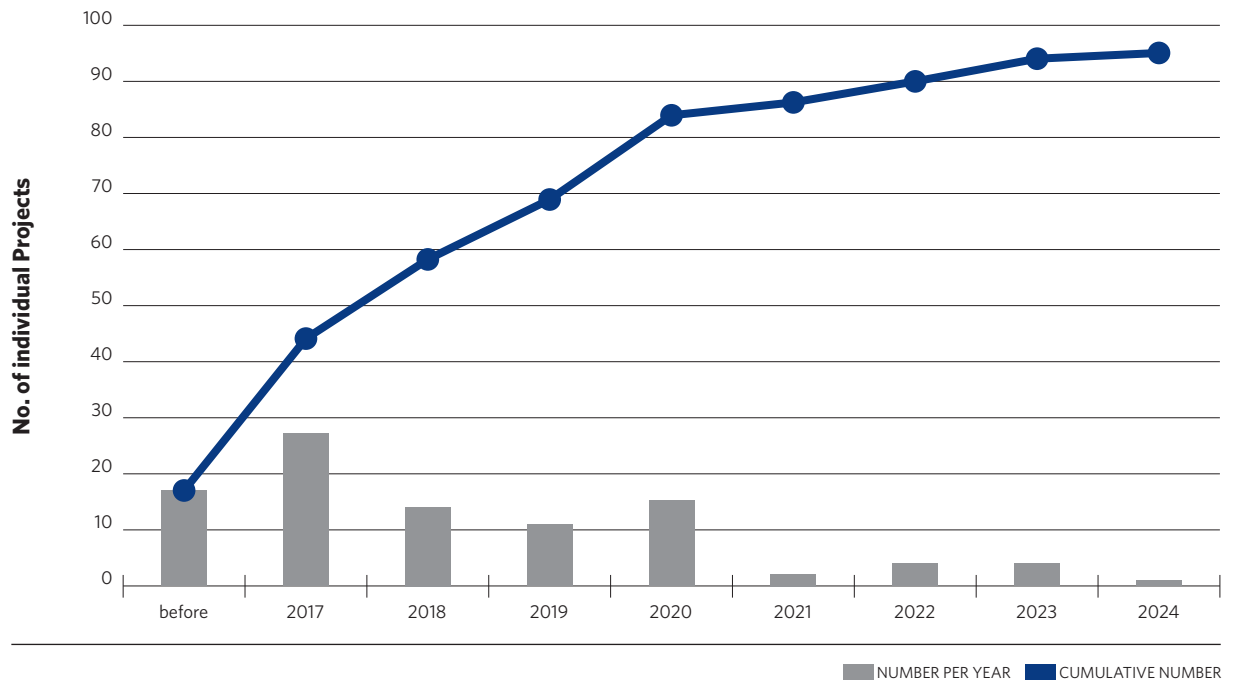
Furthermore, the progress of the individual projects that make up the structured projects is analyzed. Of the 103 individual projects involved in API, there is information on the life cycle schedule of 74,⁽³⁾ i.e. on their details and their expected progress schedule. On the basis of this information, projects remain, on average, one year at the profiling stage, almost four years at the pre-execution stage, and a little over three years at the works execution stage. This means that an average API project has a life cycle of eight years.

API completed individual projects are 17, accounting for US\$1,327 million of the investment made. In 2016, three projects falling in the Amazon Hub were completed.

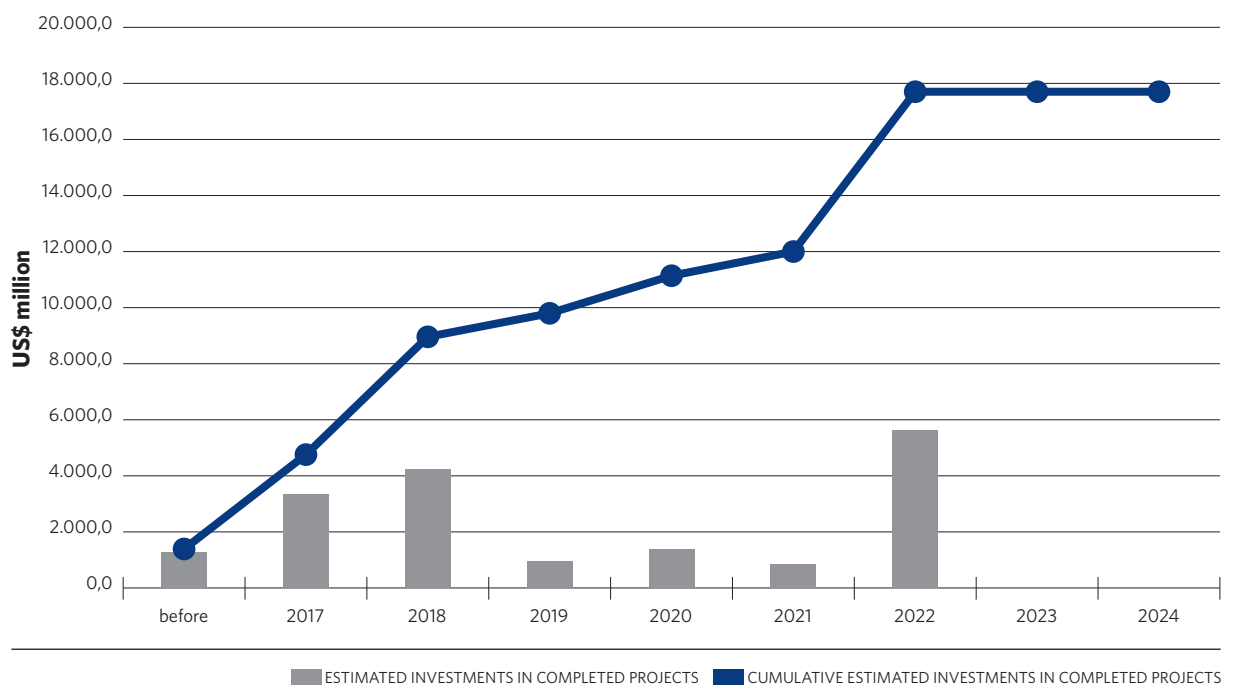
When analyzing the estimated date of completion of the other API individual projects, it should be noted that around 70% of these projects will be completed by 2019, involving a US\$10,000 million investment.

³ For more information on the Life Cycle Scheduling Methodology, see Chapter 4 in this Report.

ESTIMATED DATE OF COMPLETION OF API INDIVIDUAL PROJECTS BY YEAR AND CUMULATIVE NUMBER



ESTIMATED INVESTMENTS ACCORDING TO COMPLETED PROJECTS BY YEAR AND CUMULATIVE INVESTMENTS



1.8. Completed API Projects

Some individual projects were included in API when they were already completed as they were important for the completion of the connectivity sought by the structured project.

API completed individual projects are 17, accounting for US\$1,327 million of the investment made, and are distributed in all the Hubs, except for the Paraguay-Paraná Waterway and the Peru-Brazil-Bolivia Hubs. Most completed projects are located in the Amazon Hub (five).

As of the date of this report, three projects in the transport sector within the Amazon Hub were completed, namely: two in the river subsector and one in the sea subsector:

- El Callao Multi-Purpose Northern Terminal;
- Providencia Port;
- Construction of New Yurimaguas Port.

The two projects with the highest investment made are in Peru, financed by private initiatives.

TYPE OF FINANCING OF THE COMPLETED PROJECTS BY SECTOR *US\$ million

Sector	Public				Private				Public-private			
	No.	%	Investment amount*	% of Investment	No.	%	Investment amount*	% of Investment	No.	%	Investment amount*	% of Investment
Transport	8	88.9	36.3	6.1	5	100.0	735.4	100.0	3	100.0	0.0	100.0
Energy	1	11.1	555.0	93.9								
TOTAL	9	100.0	591.3	100.0	5	100.0	735.4	100.0	3	100.0	0.0	100.0

Only one of the completed projects involves energy works, which accounts for 42% of the investment made in the API completed projects. As for the other works, six are roads; the share of sea (three), river (three), rail (two), and border crossings (two) works is smaller.

Even though road works account for 43% of the completed projects, they represent less than 1% of the investment made; this is due to the fact that, as mentioned above, five of the six projects involve works the investments of which were made before API was created and, for this reason, these investments are not included in the investment made in the Agenda projects.

SUBSECTOR-BASED BREAKDOWN OF THE COMPLETED INDIVIDUAL PROJECTS *US\$ million

Subsector	No. of Projects	% of Projects	Investment amount*	% of Investment
Road	6	35.3	4.1	0.3
Rail	2	11.8	5.0	0.4
River	3	17.6	80.6	6.1
Sea	3	17.6	680.0	51.3
Border crossings	2	11.8	2.0	0.2
Energy interconnection	1	5.9	555.0	41.8
TOTAL	17	100.0	1,326.7	100.0

Interestingly, of the 17 works completed, 29% are binational (five), which reveals the joint efforts made by the countries to improve infrastructure and, consequently, to further physical integration. Of these five projects, three were executed by Ecuador together with Colombia or Peru. Brazil also participated in two projects jointly with Bolivia and Uruguay, respectively.

Chapter 2

Evolution of the Integration Priority Projects Agenda (API)

This chapter presents the evolution of API between 2012 and 2016, taking into account the number of individual projects and the total estimated investment. Furthermore, it provides a detailed analysis of the progress made by the API projects between 2015 and 2016 as a result of the work conducted by the countries during this year's update process.

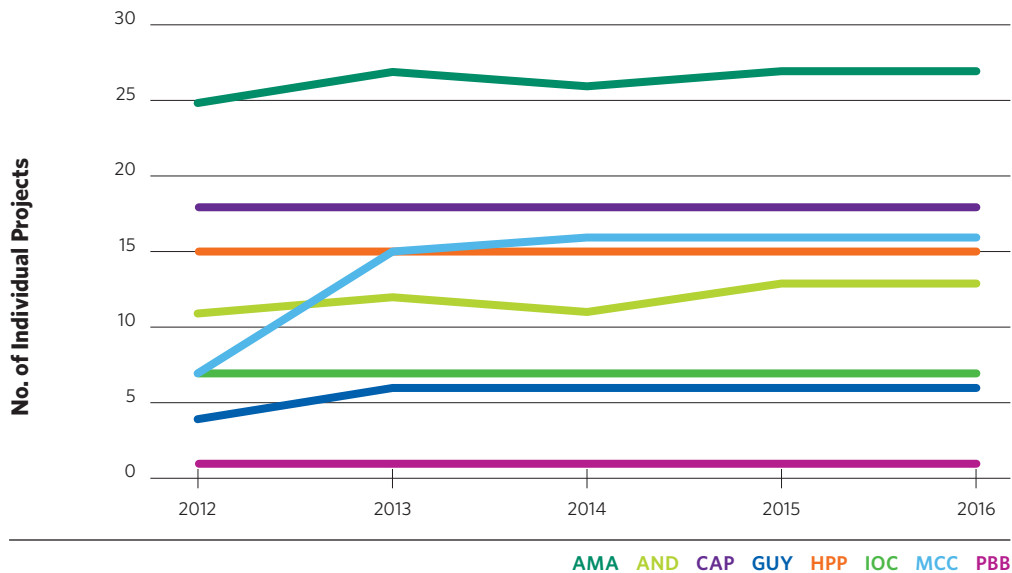
2.1. The Evolution of API between 2012 and 2016

Since its creation in 2011, API comprises the same 31 structured projects, and changes in terms of number during this period have been in individual projects. A relatively greater variation has been experienced in the estimated investment in the works concerned, which increased by 16.7 (from US\$17,261 million to US\$20,149 million) between 2012 and 2016.

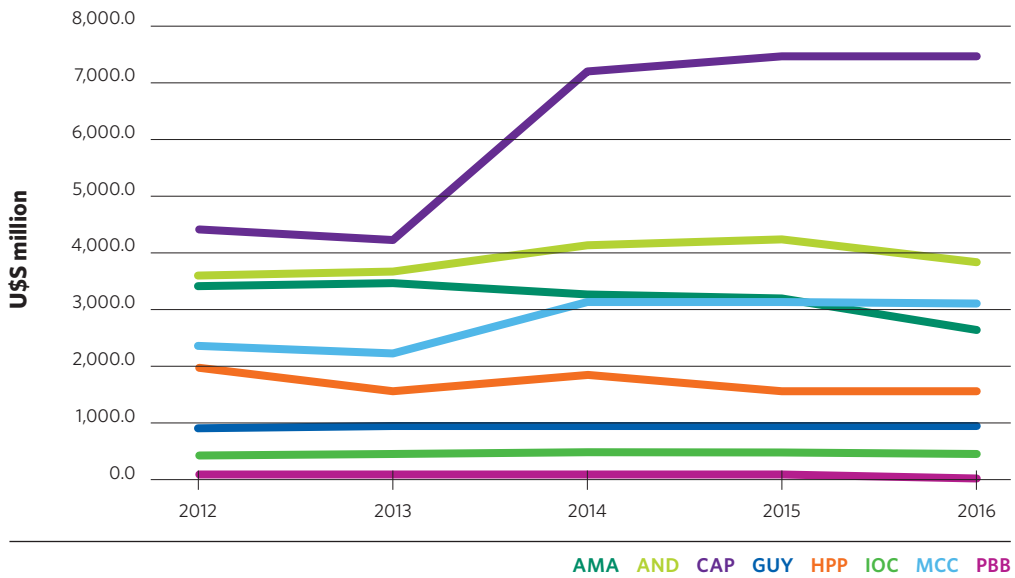
EVOLUTION OF API BETWEEN 2012 AND 2016 *US\$ million

Year	No. of Individual Projects	Estimated Investment*
2012	88	17,260.7
2013	101	16,713.8
2014	100	21,172.6
2015	103	21,135.5
2016	103	20,148.6

EVOLUTION OF API BETWEEN 2012 AND 2016 BY HUB

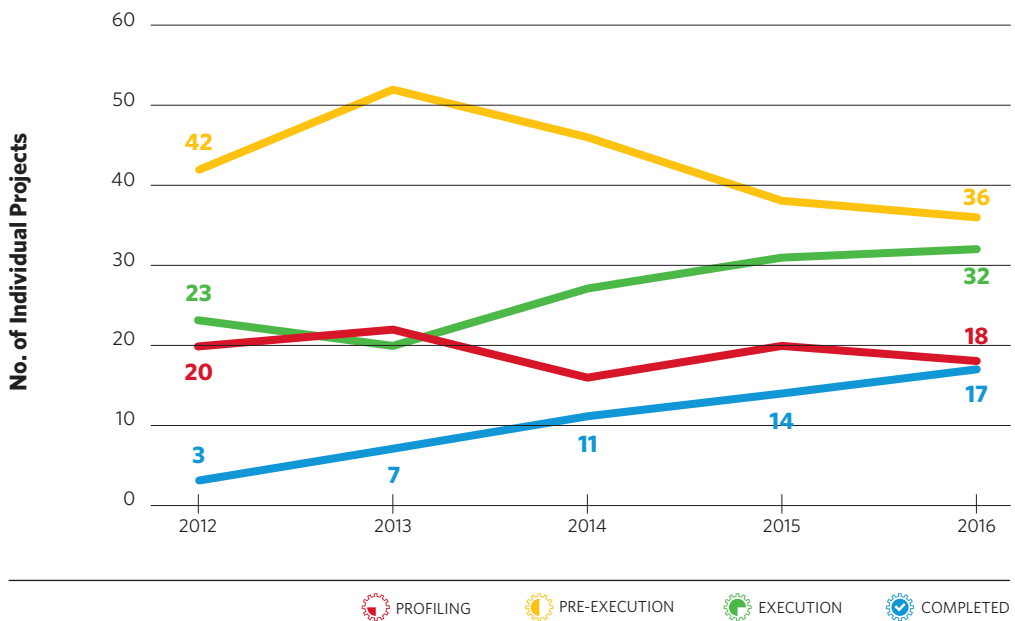


EVOLUTION OF API BETWEEN 2012 AND 2016 BY HUB



When considering the stages of the individual projects in the 2012-2016 period, the evolution in terms of the increase in number of projects in execution and completed as well as the reduction of projects at the pre-execution stage become apparent.

EVOLUTION OF API BETWEEN 2012 AND 2016 BY STAGE



2.2. Changes in API between 2015 and 2016

In 2016, online meetings of the Executive Technical Groups to Update the Projects in the COSIPLAN Portfolio and API were held. A meeting was held for each Integration and Development Hub,⁽¹⁾ using an online video-conferencing tool.

¹ The only meeting that could not be held was that on the Guianese Shield Hub, and the countries involved were asked to update the information about their projects directly in the SIP.

GTE MEETINGS TO UPDATE THE COSIPLAN PORTFOLIO AND API IN 2016

Date	Hubs	Countries
May 10	Amazon Hub	BR - CO - EC - PE
May 20	Central InterOceanic and Peru-Brazil-Bolivia Hubs	BO - BR - CH - PE - PY
May 27	MERCOSUR-Chile Hub	AR - BR - CH - PY - UY
June 7	Paraguay-Paraná Waterway Hub	AR - BO - BR - PY - UY
June 9	Capricorn and Southern Hubs	AR - BO - BR - CH - PY
June 14	Andean Hub	BO - CO - EC - PE - VE

The objectives of the update work in 2016 were: i) comply with the schedule decided by the countries in 2014 to review descriptors, completed project modules and information in the Continuous Monitoring System; ii) review the projects with inconsistent information and complete any data fields that were empty or included partial information; iii) review especially the projects at the pre-execution stage to detail as accurately as possible their progress and current status in order to facilitate their implementation.

In preparation for the above-mentioned meetings and as a result of the discussions held at them, the countries worked on the update of the Portfolio and API projects in the COSIPLAN Project Information System. As of the date of this report, almost 80% of the projects were updated as of 2016 (81 of 103).⁽²⁾

As already mentioned, API remains relatively stable regarding the number of projects. Compared to 2015, individual projects remained unchanged. API total amount of estimated investment decreased from US\$21,135 million in 2015 to US\$20,149 in 2016.

As detailed below, investment amounts increased in some Hubs and decreased in others. The reason is that, as projects move on in their life cycle, the investments necessary to implement them are known with greater precision.

EVOLUTION OF API BETWEEN 2015 AND 2016 BY HUB *US\$ million

Hub	No. of Structured Projects	% of Structured Projects	No. of Individual Projects		% of Individual Projects		Estimated Investment*		% of Investment (per Hub against the total)	
			2015	2016	2015	2016	2015	2016	2015	2016
AMA	3	9.7	27	27	26.2	26.2	3,205.2	2,669.4	15.2	13.2
AND	5	16.1	13	13	12.6	12.6	4,258.2	3,857.2	20.1	19.1
CAP	5	16.1	18	18	17.5	17.5	7,473.4	7,478.4	35.4	37.1
GUY	3	9.7	6	6	5.8	5.8	958.8	958.8	4.5	4.8
HPP	4	12.9	16	16	15.5	15.5	1,562.3	1,562.5	7.4	7.8
IOC	4	12.9	7	7	6.8	6.8	448.6	442.1	2.1	2.2
MCC	6	19.4	15	15	14.6	14.6	3,143.6	3,132.2	14.9	15.5
PBB	1	3.2	1	1	1	1	85.4	48.0	0.4	0.2
TOTAL	31	100	103	103	100	100	21,135.5	20,148.6	100	100

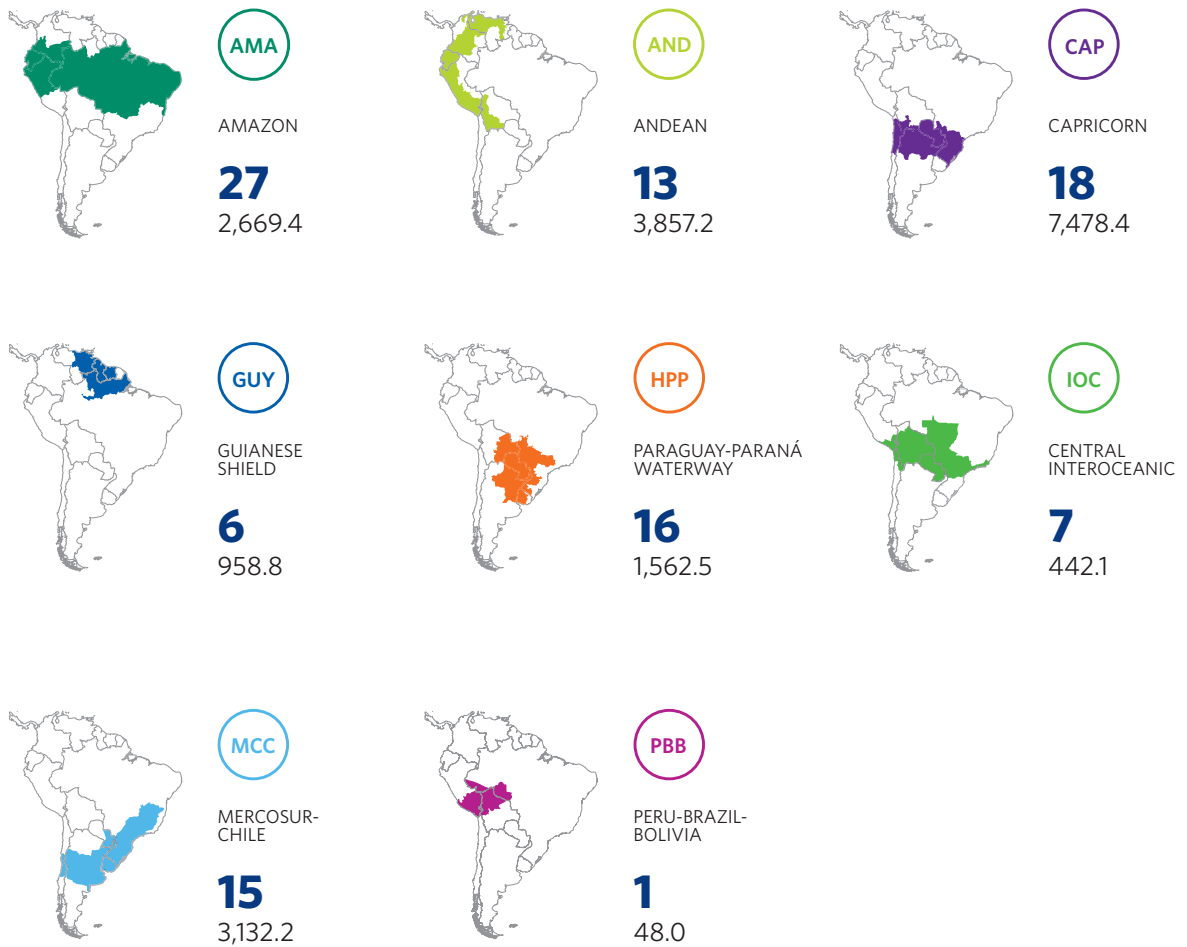
² All the data in this report are taken from the COSIPLAN Project Information System (<http://www.iirsa.org/proyectos/>) as of August 10, 2016.

Chapter 3

Integration and Development Hubs



Projects by Hub



● Number of Projects

● US\$ million

AMA AMAZON

Integration and Development Hub



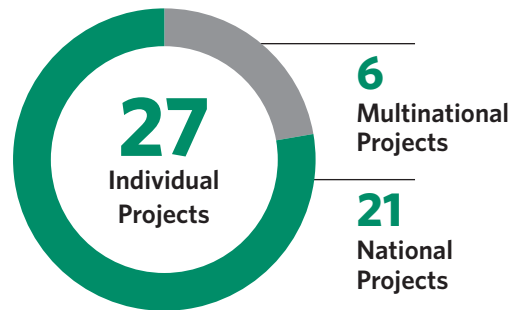
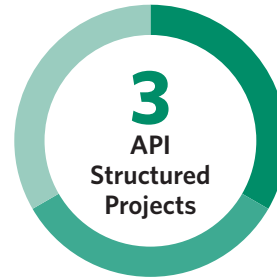
Population 132,687,257
Population density 16.5 people/km²
Superficie 8,059,085 km²

GDP US\$844.689 million
Services 75.1%
Industries 13.0%
Mining and quarrying 6.1%
Agriculture 5.7%

Estimated Investment

US\$ million

2,669.4



Projects by Stage



PROFILING

7

172.5



PRE-EXECUTION

8

293.1



EXECUTION

4

1,443.2



COMPLETED

8

760.6

Projects by Sector



Transport

27

2,669.4

Projects by Type of Financing



Public

14

500.1



Private

7

1,958.8



Public-private

6

210.5

Projects by Subsector

Transport



Road

6

854.0



River

11

264.6



Sea

4

1,384.9



Multimodal

6

165.9

AMAZON

Presentation of the Hub

The Amazon Hub⁽¹⁾ includes Brazil's Amazon and northeastern regions and the states of Goiás and Tocantins; the central-southern area of Colombia; the entire continental territory of Ecuador, and the central-northern area of Peru.

This Hub is the largest of the nine Hubs of the Portfolio, as its area is equivalent to 40% of that of the South American continent (8,059,085 km²), and 30% of it is under some type of environmental protection.

Furthermore, this Hub ranks second in population and fifth in Gross Domestic Product (GDP), as it accounts for 32% of the population (132,687,257 inhabitants) and 19% of the GDP of South America (US\$844,689 million).⁽²⁾

In this Hub, existing and planned infrastructure is marked by the presence of the Andes and the vast Amazon basin, the largest river basin in the world.

AREA OF INFLUENCE OF THE AMAZON HUB



¹ See "Caracterización Socioeconómica y Ambiental del Eje del Amazonas," COSIPLAN-IIRSA, 2015, at <http://www.iirsa.org/amazonas.asp>

² At current 2013 prices.

Thus, two rather different realities coexist. On the one hand, there is the territory framed between the Andes and the Pacific coast, where road transportation prevails, followed by a small proportion of railways, both of which enable connection with a network of major ports located along the Pacific coast and shared by Colombia, Ecuador and Peru. On the other hand, there is the Amazon basin, which has its source in the eastern slopes of the Andes and finds its way to the Atlantic ocean through a vast network of navigable rivers.

As regards infrastructure, the total length of the **road network** of the countries involved in the Amazon Hub is 2,012,551 km, 12% of which (some 238,414 km) are paved. The **rail network** is 36,984 km long. The **port system** of the Hub is made up of 40 major ports, nine of which handle more than 10 million tons per year. Most **river transportation** activities in the region are carried out along the Amazon basin and its major tributaries, such as the Negro, Putumayo, Ucayali, Madeira, Juruá, Purus and Madeira rivers, among others. Concerning **electricity generation**, as of 2012 the countries involved in the Hub had a joint installed power of about 147,186 MW.

The presence and diversity of **indigenous communities** is significant in the Hub, as there are more than 200 peoples living in the four countries, their relative share of the population being different in each nation. Peru has the most important share, as indigenous peoples account for 34% of its population. This figure is 7% in Ecuador, 3% in Colombia, and less than 1% in Brazil.

At present, there are more than 2,000 territorial units in the Hub with some degree of **environmental protection**. In Brazil, the states of Pará and Amazonas stand out, with more than 1,400,000 km² of protected territory, which accounts for approximately 60% of the Hub's total protected area.

The most frequent **natural hazards** in the Andean region are earthquakes, tsunamis and volcanic eruptions, whereas in the Amazon basin, in which the four countries are involved, the most recurring ones are large floods.

The countries involved in the Amazon Hub defined three API projects for the purpose of consolidating connectivity in their territories. They are made up of 27 individual projects from the COSIPLAN Portfolio, and amount to an investment estimated at US\$2,669 million.

In relative terms, Ecuador contributes 91% of its GDP to the Hub and Peru 73%. Brazil and Colombia are the countries that contribute less: 24% and 17% of their GDP, respectively. In absolute terms, Brazil accounts for 63% of the Hub's aggregate GDP, followed by Peru (18%), and by Ecuador and Colombia (11% and 8%, respectively).

A noticeable trend in the Hub's global economic performance is its growth rate in the 2007-2013 period, which reached an average of 5% and is above the growth rate of Latin America and the Caribbean in the same period, which was 3%.

The Hub shares some regions of its area of influence with other five Hubs: the Guianese Shield (GUY), the Paraguay-Paraná Waterway (HPP), the Peru-Brazil-Bolivia (PBB), the Andean (AND), and the Central Interoceanic Hubs (IOC).

AMAZON

API Projects

The API projects belonging to this Hub are intended to improve navigation conditions, logistics, and access by land regarding the connection of the following regions of the four countries (Brazil, Colombia, Ecuador, and Peru): the Peruvian coast, sierra and Amazon areas with Amazon regions in Brazil (Amazonas and Pará states) and the southern region of Ecuador with the Amazon areas of Peru and Colombia, the state of Amazonas in Brazil and the connections with the Atlantic and the Pacific oceans.

The Amazon Hub is the one with the greatest number of individual projects (27), and ranks third in terms of API estimated investment.

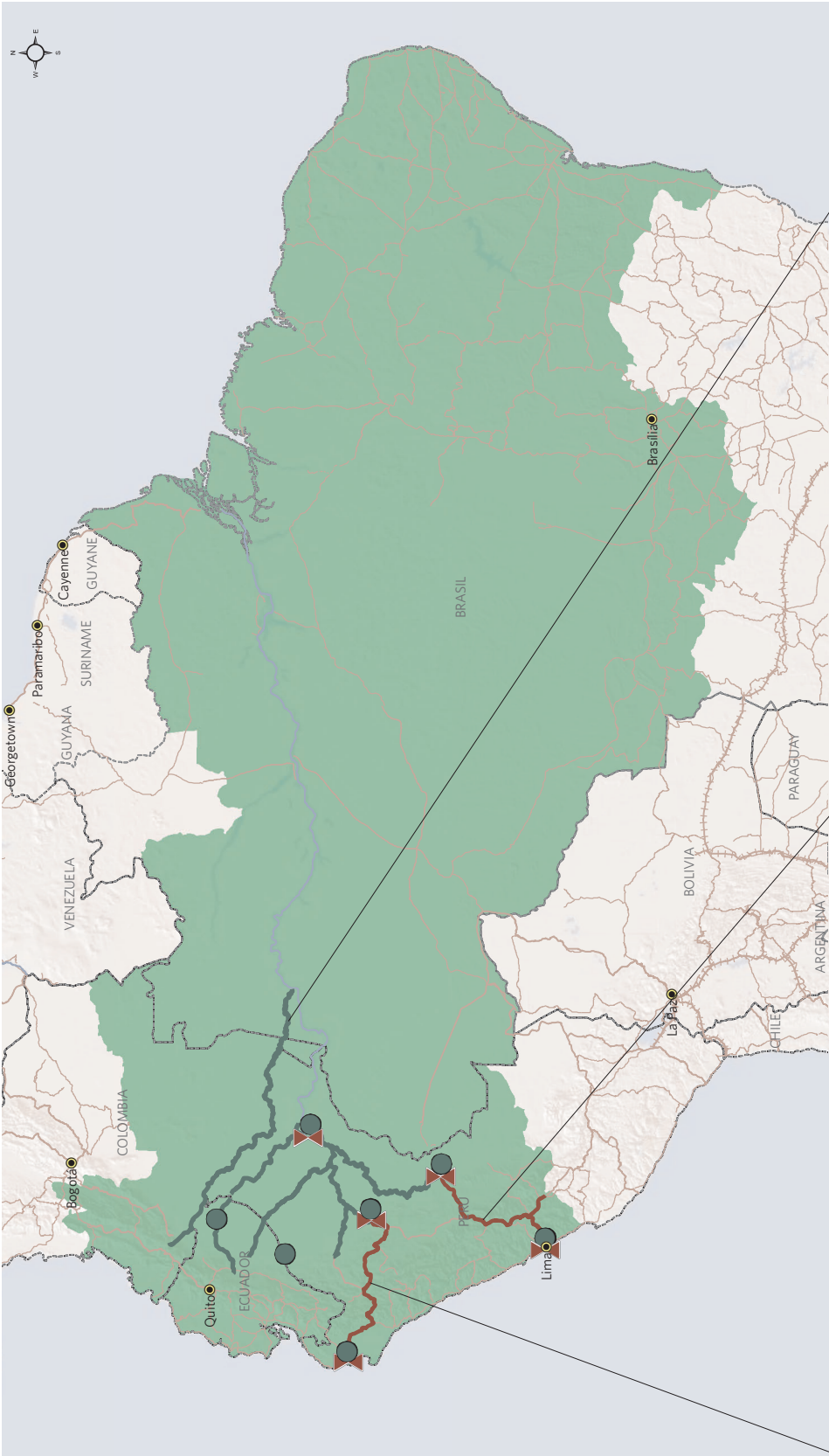
The API project with the greatest estimated investment in the Hub is Callao - La Oroya - Pucallpa Road, Ports, Logistics Centers and Waterways, involving US\$2,219 million, an amount that accounts for 83% of the investments planned for this Hub.

Furthermore, this structured project ranks third in terms of API investment, and the individual projects that make it up are Peruvian. The purpose of this structured project is to connect different destination markets on the Pacific ocean through the Callao port and to enable access to Manaus (Brazil) and to the Atlantic ocean through the Amazon river. It also seeks to contribute to local development by linking the coast, sierra and central rainforest regions of Peru, taking into account the complementary nature of the production and consumption patterns of these regions. Its aim in terms of connectivity is to further the movement of both tradable goods and passengers between the cities of Pucallpa and Iquitos as well as to facilitate access to border areas that can only be reached through the Amazon tributaries.

Project Paita - Tarapoto - Yurimaguas Road, Ports, Logistic Centers and Waterways is also made up by Peruvian individual projects and has similar objectives, although focused on the territories of Paita, Tarapoto and Yurimaguas. Actually, it seeks to ensure the viability of international transport between Peru and Brazil and its extension to both the Pacific and Atlantic oceans. In addition, it aims at promoting the development of the northeastern region of Peru through the improvement of the links among its departments: the Paita-Yurimaguas road and the Huallaga, Marañón and Amazon waterways are the backbone of this macroregion. Four of the 10 individual projects comprised in this connectivity structured project are completed, the other ones being at the profiling or pre-execution stage on account of their complexity and scope.

Project Northeastern Access to the Amazon River involves all the countries in the Hub. Most of its individual projects concern Ecuador and Peru and are exclusively within the river subsector: they are intended to improve navigation conditions on Ecuadorian, Colombian and Peruvian rivers, articulating with the Putumayo-Içá, Morona, and Napo rivers that connect farther on with the Solimões-Amazon river in the Brazilian territory. The goal is to enhance navigation on three waterways that are presently navigable rivers only for limited draft vessels.

API PROJECTS IN THE AMAZON HUB













NORTHEASTERN ACCESS TO THE AMAZON RIVER

CALLAO - LA OROYA - PUCALLPA ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS

PAITA - TARAPOTO - YURIMAGUAS ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS

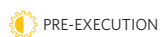
API PROJECTS IN THE AMAZON HUB *US\$ million**AP1. PAITA - TARAPOTO - YURIMAGUAS ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS**

Estimated investment:* 893.7 | Countries: PE

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AMA16	TARAPOTO - YURIMAGUAS ROAD	3		231.7	PE	March 2009
AMA20	PAITA LOGISTICS CENTER	3		47.7	PE	November 2018
AMA21	YURIMAGUAS LOGISTICS CENTER	3		15.0	PE	December 2018
AMA24	PAITA PORT	3		176.7	PE	June 2014
AMA25	PAITA - TARAPOTO ROAD	3		273.7	PE	June 2011
AMA40	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE HUALLAGA RIVER WATERWAY, BETWEEN YURIMAGUAS AND THE CONFLUENCE WITH MARAÑÓN RIVER	6		33.0	PE	May 2020
AMA41	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE MARAÑÓN RIVER WATERWAY, BETWEEN SARAMIRIZA AND THE CONFLUENCE WITH UCAYALI RIVER	6		11.0	PE	August 2019
AMA44	IQUITOS LOGISTICS CENTER	6		15.0	PE	December 2018
AMA56	MODERNIZATION OF IQUITOS PORT	6		39.6	PE	April 2020
AMA102	CONSTRUCTION OF NEW YURIMAGUAS PORT	3		50.3	PE	July 2016



PROFILING



PRE-EXECUTION














EXECUTION



COMPLETED





API 2. CALLAO - LA OROYA - PUCALLPA ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS

Estimated investment:* 2,219.5 | Countries: PE

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AMA26	IMPROVEMENT OF TINGO MARÍA - PUCALLPA ROAD	4		438.4	PE	September 2016
AMA30	PUCALLPA INTERMODAL LOGISTICS CENTER	4		15.0	PE	December 2018
AMA31	MODERNIZATION OF EL CALLAO PORT (NEW CONTAINER DOCK)	4		704.8	PE	March 2018
AMA32	LIMA - RICARDO PALMA EXPRESSWAY	4		200.0	PE	December 2017
AMA43	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE UCAYALI RIVER WATERWAY, BETWEEN PUCALLPA AND THE CONFLUENCE WITH MARAÑÓN RIVER	6		19.0	PE	May 2019
AMA63	IIRSA CENTER, SECTION 2: RICARDO PALMA - LA OROYA - TURN OFF TO CERRO DE PASCO / LA OROYA - HUANCAYO	4		100.0	PE	July 2017
AMA64	IIRSA CENTER, SECTION 3: TURN-OFF TO CERRO DE PASCO - TINGO MARÍA	4		115.6	PE	December 2018
AMA65	EL CALLAO LOGISTICS ACTIVITIES ZONE (ZAL CALLAO)	4		68.3	PE	July 2018
AMA66	EL CALLAO MULTI-PURPOSE NORTHERN TERMINAL	4		390.2	PE	May 2016
AMA67	EL CALLAO MINERAL SHIPPING TERMINAL	4		113.2	PE	March 2014
AMA104	CONSTRUCTION OF NEW PUCALLPA PORT	4		55.0	PE	December 2018

API 3. NORTHEASTERN ACCESS TO THE AMAZON RIVER

Estimated investment:* 61.8 | Countries: BR - CO - EC - PE

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AMA38	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE PUTUMAYO - IÇÁ RIVER	6		15.0	BR - CO - EC - PE	December 2019
AMA39	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE MORONA RIVER	6		5.2	EC - PE	January 2017
AMA42	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE NAPO RIVER (ECUADORIAN SECTION)	6		5.8	EC	September 2019
AMA45	MORONA FREIGHT TRANSFER PORT	7		5.0	EC	ND
AMA71	PROVIDENCIA PORT	2		25.0	EC	August 2015
AMA106	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE NAPO RIVER (PERUVIAN SECTION)	6		5.8	PE	September 2019

 PROFILING  PRE-EXECUTION  EXECUTION  COMPLETED

The three individual projects with the greatest estimated investment are El Callao Multi-Purpose Northern Terminal, Modernization of El Callao Port (New Container Dock), and Improvement of Tingo María - Pucallpa Road. Together, they account for 57% of all the estimated investment in the Hub. These three projects are Peruvian and belong to structured project Callao - La Oroya - Pucallpa Road, Ports, Logistics Centers and Waterways. The project involving the Northern Terminal was completed in 2016, while the other two are at the execution stage and will be completed in the next three years (2018). The first two fall in the sea subsector and are financed with private funds, while the third is a road project with a public source of investment.

Of the 19 projects under implementation, 11 would be completed in the next four years (up to 2019), and the other eight would be completed in 2020.

TECHNICAL SPECIFICATIONS OF THE HUB'S PROJECTS**ROAD SUBSECTOR**

- Paving and rehabilitation of 3,076 km of roads

**SEA SUBSECTOR**

- Modernization and expansion of four sea ports

**MULTIMODAL SUBSECTOR**

- Construction of six logistics transfer centers, one with an area of 277 ha and another one with an area of 150 ha

**RIVER SUBSECTOR**

- Modernization and construction of four river ports
- Improvement of navigation conditions along 3,800 km of waterways
- Upgrade/construction of 12 docks

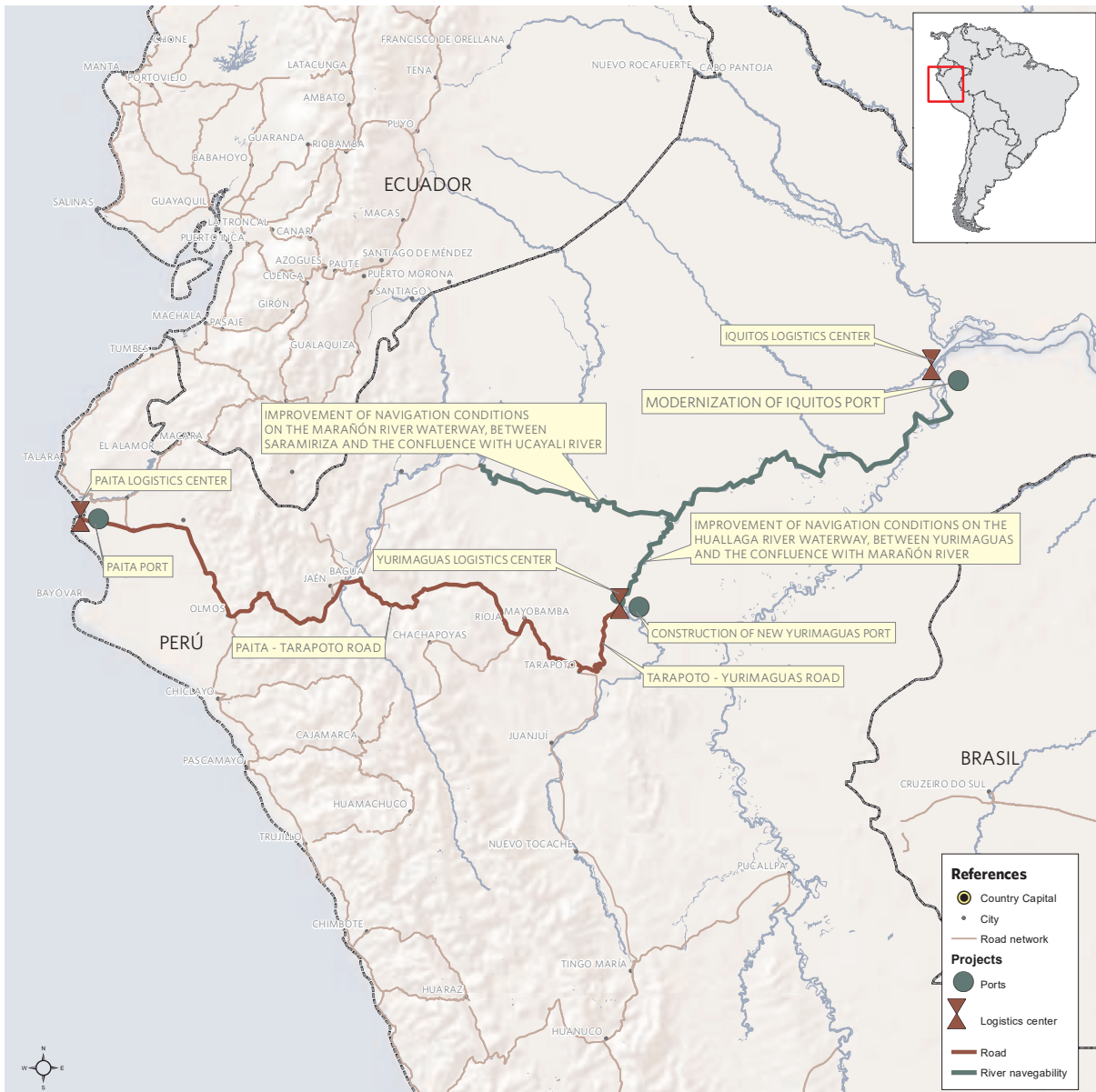
PAITA - TARAPOTO - YURIMAGUAS ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS

PERU

Subsectors: River, road, multimodal, sea
Estimated investment: US\$388,182,000
Type of financing: Public-private
Project stage: Execution
Life cycle stage and number of projects: Profiling (3);
 pre-execution (3); completed (4)

Estimated date of completion:
December 2020

PAITA - TARAPOTO - YURIMAGUAS ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS PROJECT





AMA API 1

Rationale

This project is structured to connect the coast, sierra and rainforest regions in the northern area of Peru with Brazil (Manaus) and, eventually, with the Atlantic ocean, with a view to promoting trade and complementarity among the different areas involved. The project is very significant since it is meant to streamline logistics in a large corridor that articulates densely populated areas such as the Piura region with emerging, low population density areas in the rainforest. All the most dynamic cities on the northern coast of Peru may be linked to this Northern Branch of the Amazon Hub, which, in turn, connects the most densely populated department in the Peruvian sierra region (Cajamarca) with three departments located in the rainforest (Amazonas, San Martín, and Loreto).

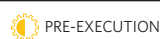
The goal is that this structured project will operate as a multimodal corridor for international transportation to and from Brazil along the Amazon river. In the right conditions, this flow should be sequential and complementary, ensuring orderly and free-flowing transportation.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AMA16	TARAPOTO - YURIMAGUAS ROAD	3		231.7	PE	March 2009
AMA20	PAITA LOGISTICS CENTER	3		47.7	PE	November 2018
AMA21	YURIMAGUAS LOGISTICS CENTER	3		15.0	PE	December 2018
AMA24	PAITA PORT	3		176.7	PE	June 2014
AMA25	PAITA - TARAPOTO ROAD	3		273.7	PE	June 2011
AMA40	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE HUALLAGA RIVER WATERWAY, BETWEEN YURIMAGUAS AND THE CONFLUENCE WITH MARAÑÓN RIVER	6		33.0	PE	May 2020
AMA41	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE MARAÑÓN RIVER WATERWAY, BETWEEN SARAMIRIZA AND THE CONFLUENCE WITH UCAYALI RIVER	6		11.0	PE	August 2019
AMA44	IQUITOS LOGISTICS CENTER	6		15.0	PE	December 2018
AMA56	MODERNIZATION OF IQUITOS PORT	6		39.6	PE	April 2020
AMA102	CONSTRUCTION OF NEW YURIMAGUAS PORT	3		50.3	PE	July 2016



PROFILING



PRE-EXECUTION



EXECUTION



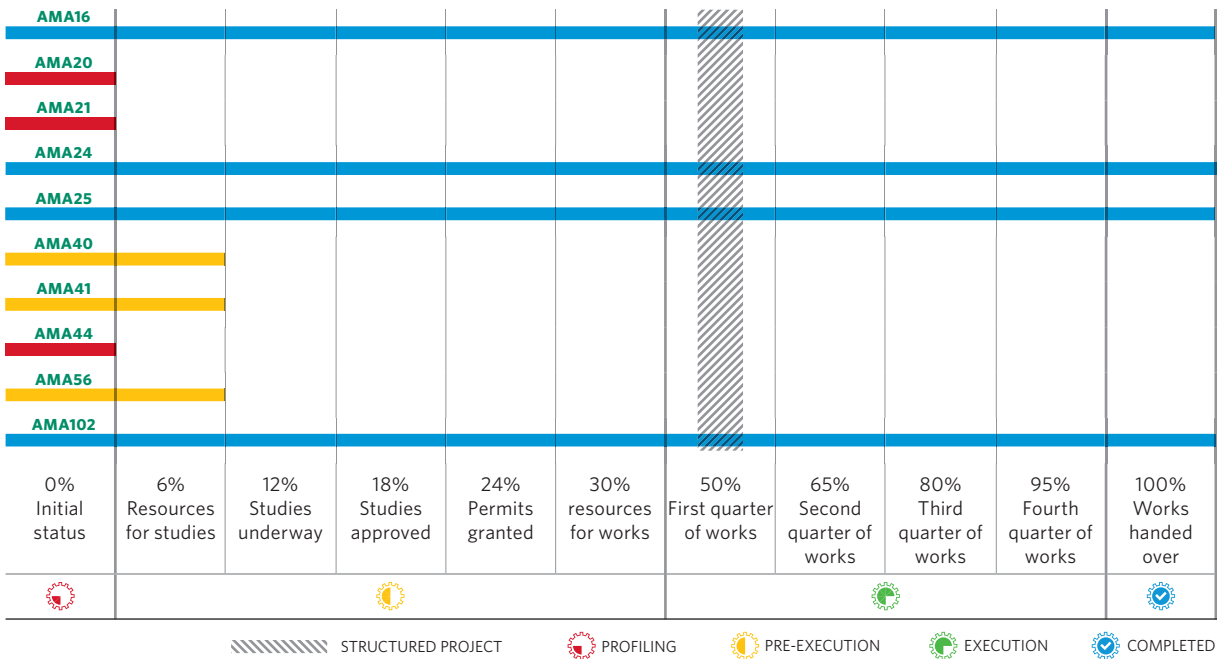
COMPLETED

PAITA - TARAPOTO - YURIMAGUAS ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS

Structured Project Technical Specifications

- Paving and rehabilitation of 2,150 km of roads
- Construction of three logistics transfer centers, one with an area of 277 ha
- Modernization of one sea port
- Modernization/construction of two river ports
- Improvement of navigation conditions on a 2,600-km long waterway (shared with another structured project)

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT





Last Year's Major Developments

Project Construction of New Yurimaguas Port (AMA102) made 50% progress and thus was completed.

Regarding the projects Improvement of Navigation Conditions on the Huallaga River Waterway, between Yurimaguas and the Confluence with Marañón River (AMA40) and Improvement of Navigation Conditions on the Marañón River Waterway, between Saramiriza and the Confluence with Ucayali River (AMA41), the process of prior consultation was successfully completed in May-October 2015. This enabled PROINVERSIÓN to reactivate in December 2015 the bidding process to award the concession for the design, execution and management of the waterways. The award is scheduled for the third quarter of 2016.

CALLAO - LA OROYA - PUCALLPA ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS

PERU

Subsectors: River, road, multimodal, sea

Estimated investment: US\$2,219,459,220

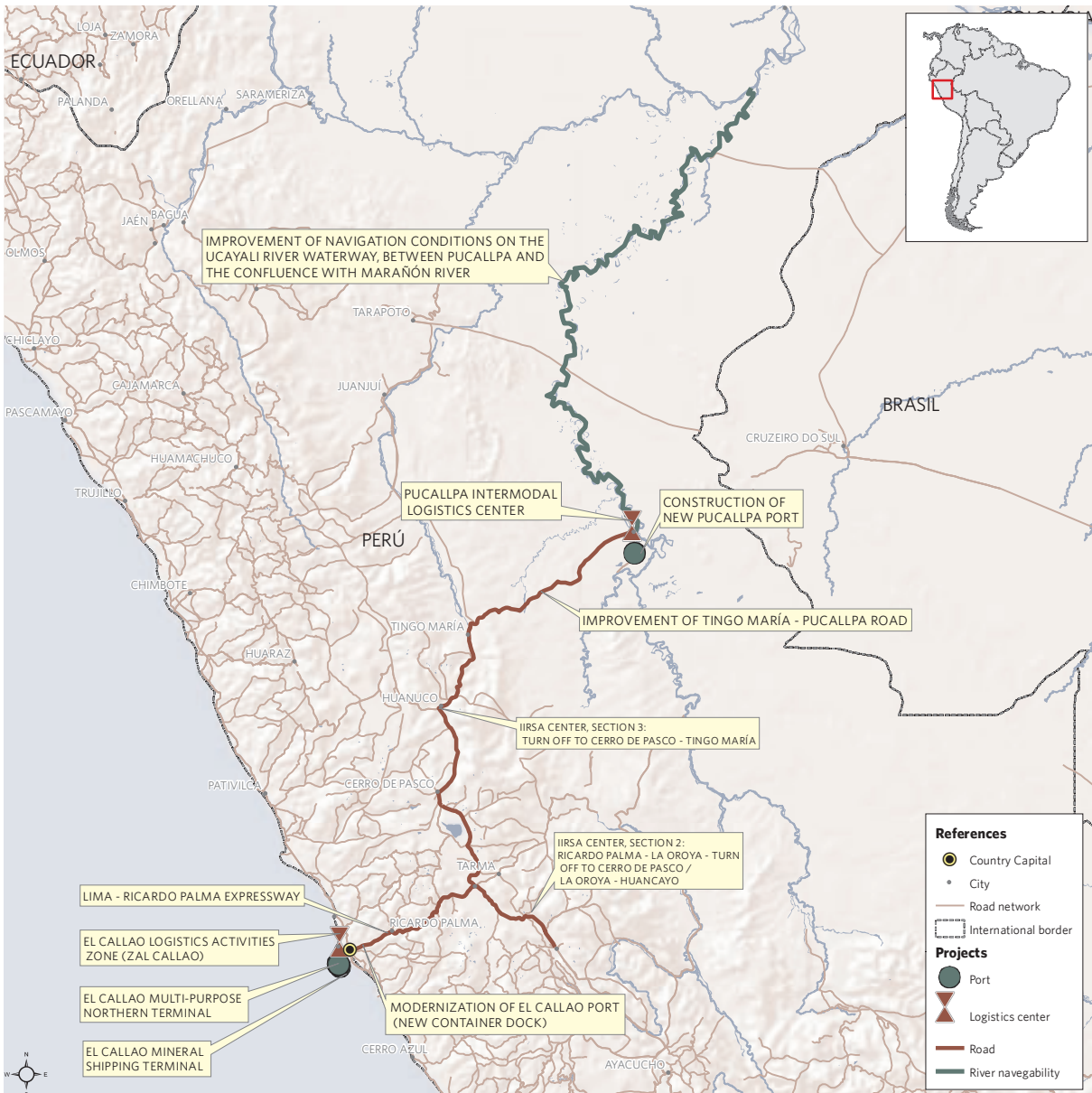
Type of financing: Public-private

Project stage: Execution

Life cycle stage and number of projects: Profiling (2); pre-execution (3); execution (4); completed (2)

Estimated date of completion:
November 2020

CALLAO - LA OROYA - PUCALLPA ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS PROJECT





AMA API 2

Rationale

This project, also known as “Central Branch of the Amazon Hub,” is structured in order to connect the coast, sierra and rainforest regions and to open up an access to Manaus (Brazil) and overseas markets. It seeks to promote the complementarity of the different regions in its area of influence. Although the purpose of this structured project is to reach out to different destination markets of the Pacific basin through the Callao port as well as to Brazil and the Atlantic ocean through the Amazon river, it also seeks to connect the coast, sierra and central rainforest regions of Peru, taking into account the complementary nature of the production and consumption patterns of these regions. The central sierra and rainforest supply forestry, fruit and agricultural products to Lima and Callao, from where processed goods are carried to such regions.

The improvement of navigation conditions on the Amazonian waterways will allow the movement of both tradable goods and passengers between the cities of Pucallpa and Iquitos as well as facilitate access to border areas that can only be reached through the Amazon tributaries. It will also be necessary to enhance transport services, mainly the vessels operating informally, so that they provide efficient and safe transportation.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AMA26	IMPROVEMENT OF TINGO MARÍA - PUCALLPA ROAD	4		438.4	PE	September 2016
AMA30	PUCALLPA INTERMODAL LOGISTICS CENTER	4		15.0	PE	December 2018
AMA31	MODERNIZATION OF EL CALLAO PORT (NEW CONTAINER DOCK)	4		704.8	PE	March 2018
AMA32	LIMA - RICARDO PALMA EXPRESSWAY	4		200.0	PE	December 2017
AMA43	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE UCAYALI RIVER WATERWAY, BETWEEN PUCALLPA AND THE CONFLUENCE WITH MARAÑÓN RIVER	6		19.0	PE	May 2019
AMA63	IIRSA CENTER, SECTION 2: RICARDO PALMA - LA OROYA - TURN OFF TO CERRO DE PASCO / LA OROYA - HUANCAYO	4		100.0	PE	July 2017
AMA64	IIRSA CENTER, SECTION 3: TURN-OFF TO CERRO DE PASCO - TINGO MARÍA	4		115.6	PE	December 2018
AMA65	EL CALLAO LOGISTICS ACTIVITIES ZONE (ZAL CALLAO)	4		68.3	PE	July 2018
AMA66	EL CALLAO MULTI-PURPOSE NORTHERN TERMINAL	4		390.2	PE	May 2016
AMA67	EL CALLAO MINERAL SHIPPING TERMINAL	4		113.2	PE	March 2014
AMA104	CONSTRUCTION OF NEW PUCALLPA PORT	4		55.0	PE	December 2018



PROFILING



PRE-EXECUTION



EXECUTION



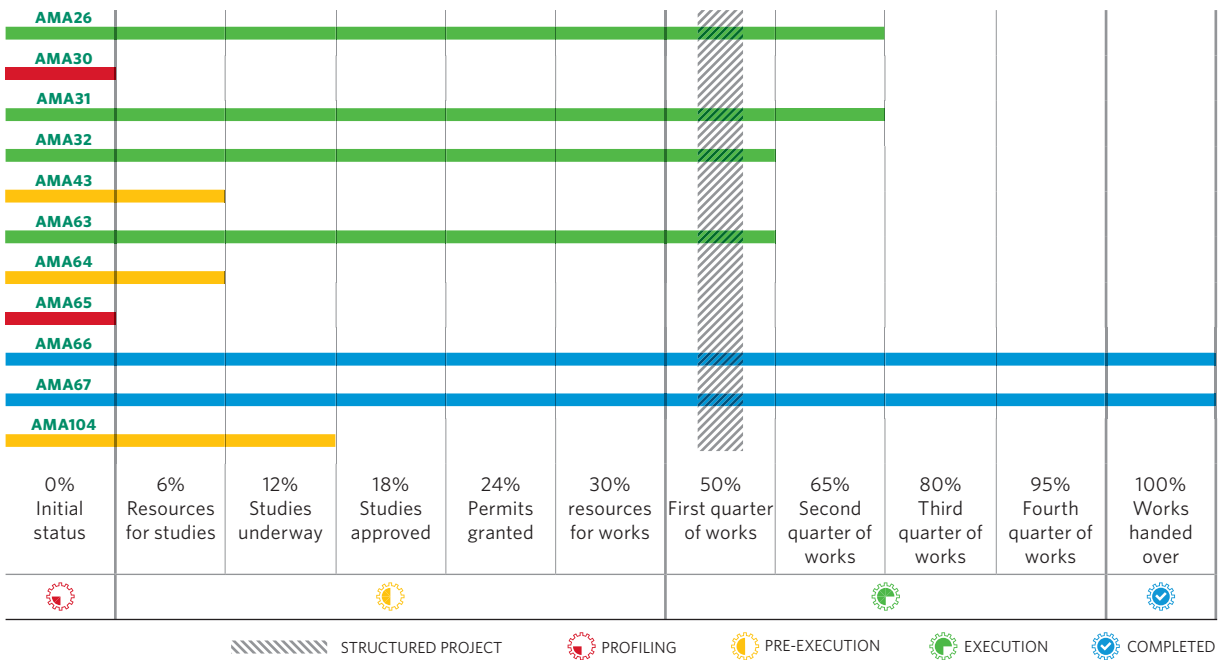
COMPLETED

CALLAO - LA OROYA - PUCALLPA ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS

Structured Project Technical Specifications

- Paving and rehabilitation of 925.7 km of roads
- Construction of two logistics centers
- Expansion of three sea ports
- Improvement of navigation conditions on a 2,600-km long waterway (shared with another structured project)
- Construction of a river port

PORCENTAJE DE AVANCE DE LOS PROYECTOS INDIVIDUALES Y ETAPA DEL PROYECTO ESTRUCTURADO





Last Year's Major Developments

Project El Callao Multi-Purpose Northern Terminal (AMA66) made 20% progress, so it has been completed. With the resources for the works secured, the Improvement project advanced 18%.

As for the project Improvement of the Tingo María - Pucallpa Road (AMA26), works have been delayed due to interferences with electricity and telephone cables and the sanitation network. Works were resumed in January 2016 and are scheduled to be completed in February 2017.

Concerning the project Improvement of Navigation Conditions on the Ucayali River Waterway, between Pucallpa and the Confluence with Marañón River (AMA43), in the May-October 2015 period, a prior consultation process was successfully completed. This enabled PROINVERSIÓN to reactivate in December 2015 the bidding process to award under a concession agreement the design, execution and management of the waterways. This award is scheduled for the third quarter of 2016.

NORTHEASTERN ACCESS TO THE AMAZON RIVER

BRAZIL - COLOMBIA - ECUADOR - PERU

Subsectors: River, multimodal

Estimated investment: US\$61,759,000

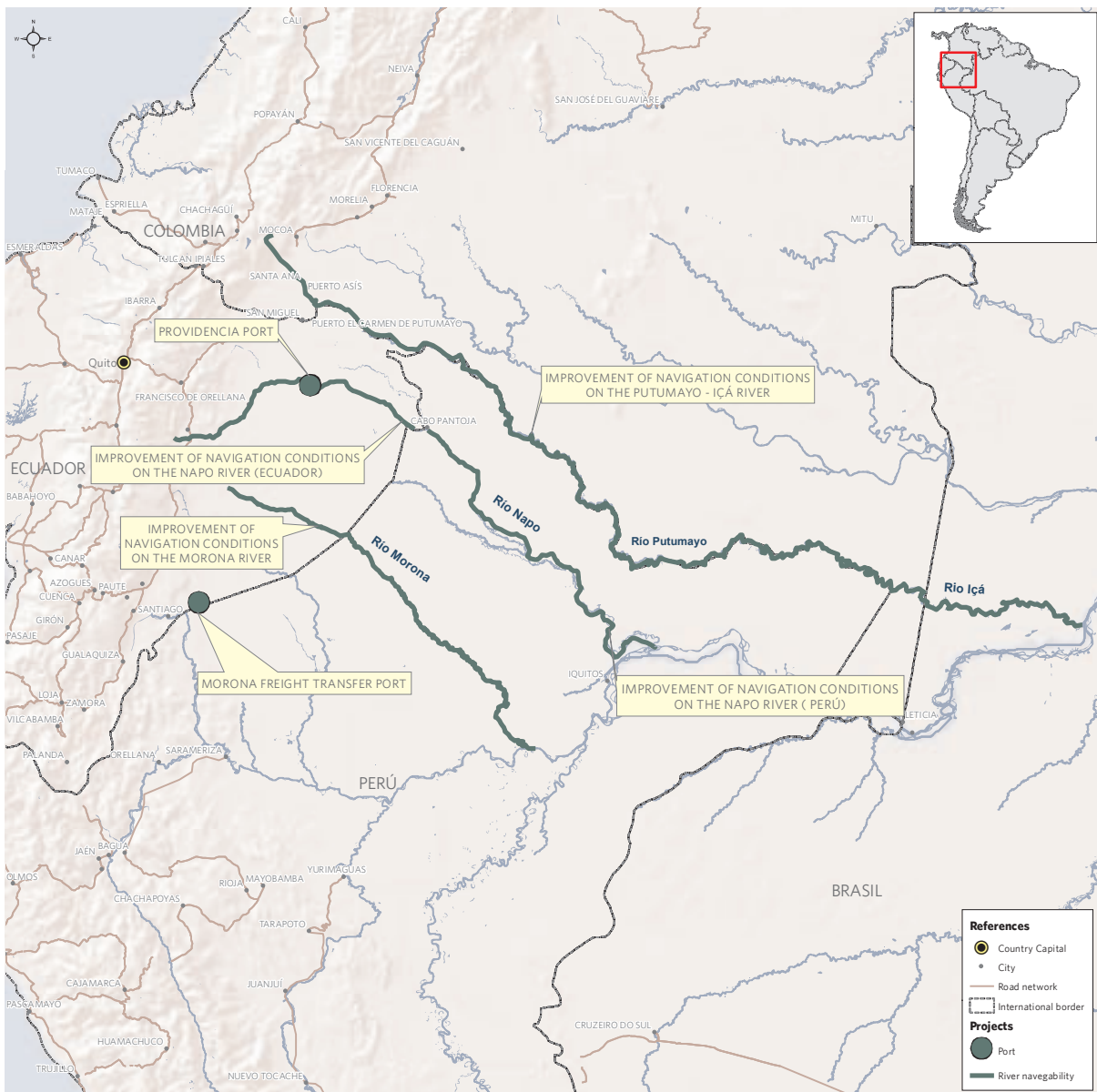
Type of financing: Public

Project stage: Execution

Life cycle stage and number of projects: Profiling (2); pre-execution (3); completed (1)

Estimated Date of Completion:
December 2019

NORTHEASTERN ACCESS TO THE AMAZON RIVER PROJECT



For more information, visit <http://www.iirsa.org/api03.asp>



AMA API 3

Rationale

This project seeks to tap into the complementarities of the different natural regions of Ecuador, Colombia, Peru and Brazil through the connection of the coast and Andean areas of Ecuador and Colombia with the vast Amazonia. The bimodal corridors resulting from the waterways being returned to navigable standards and the river terminals in operation aim at reaching the commercial market of the city of Manaus, without losing sight of the potential overseas markets. Manaus is the most important city of the Amazonia.

Moreover, the project will have a considerable impact on the communities living in its area of influence, as they have no other alternative in terms of transportation of goods and people. However, there is significant trade in products from the petroleum industry, which promotes trade. As for the transportation of other goods, mainly foodstuffs, building materials, and tools and utensils, an annual volume of 30,000 tons is estimated.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AMA38	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE PUTUMAYO - IÇÁ RIVER	6		15.0	BR - CO - EC - PE	December 2019
AMA39	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE MORONA RIVER	6		5.2	EC - PE	January 2016
AMA42	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE NAPO RIVER (ECUADORIAN SECTION)	6		5.8	EC	September 2019
AMA45	MORONA FREIGHT TRANSFER PORT	7		5.0	EC	ND
AMA71	PROVIDENCIA PORT	2		25.0	EC	August 2015
AMA106	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE NAPO RIVER (PERUVIAN SECTION)	6		5.8	PE	September 2019

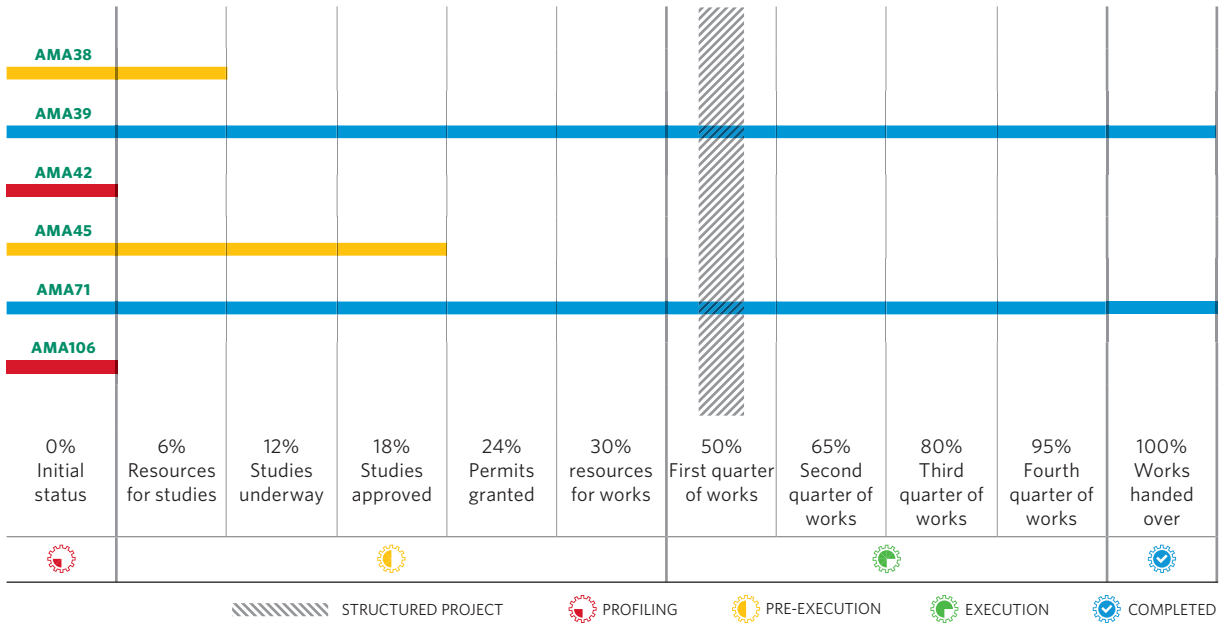
PROFILING
 PRE-EXECUTION
 EXECUTION
 COMPLETED

Structured Project Technical Specifications

- Construction of a logistics transfer center with an area of 150 ha
- Improvement of navigation conditions along 1,200 km of waterways
- Upgrade/construction of 12 docks
- Construction of a river port

NORTHEASTERN ACCESS TO THE AMAZON RIVER

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



Last Year's Major Developments

Project Providencia Port (AMA71) is completed.

AND ANDEAN

Integration and Development Hub



Population 111,195,797
Population density 39.1 people/km²
Area 2,845,658 km²

GDP US\$857,037 million

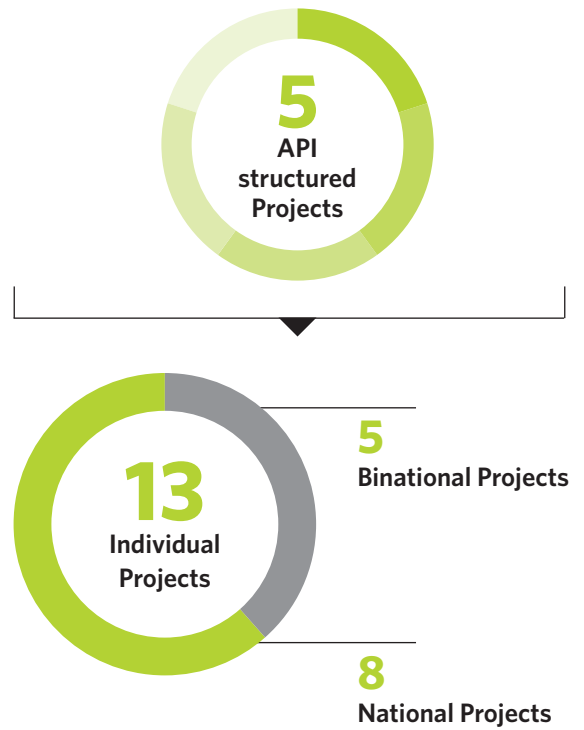
Services	62.9%
Mining and quarrying	16.8%
Industries	13.5%
Agriculture	6.8%



Estimated Investment

US\$ million

3,857.1



Projects by Stage



PROFILING

1

472.4



PRE-EXECUTION

4

1,049.3



EXECUTION

5

2,331.4



COMPLETED

3

4.0

Projects by Sector



Transport

13

3,857.1

Projects by Type of Financing



Public

11

3,384.8



Public-private

2

472.3

Projects by Subsector

Transport



Road

8

3,706.5



Border crossings

5

150.6

ANDEAN

Presentation of the Hub

The Andean Hub⁽¹⁾ extends from the coasts of the Caribbean Sea in Venezuela and Colombia to the southern border of Bolivia with Argentina, including the Andes (in Colombia, Ecuador, Peru, and Bolivia, all the territory of Venezuela, with the exception of the state of Amazonas) as well as the Pacific coasts of Colombia, Ecuador and Peru.

The Hub accounts for 16% of the South American territory (2,845,658 km²) and 28% of its population (111,195,797 inhabitants), i.e. it is the third more densely populated Hub after the MERCOSUR-Chile and Amazon Hubs. Furthermore, it has 21% of the GDP of the region (US\$857,037 million)⁽²⁾ and 80% of the total of the economies of the countries involved.

AREA OF INFLUENCE OF THE ANDEAN HUB



1 See "Caracterización Socioeconómica y Ambiental del Eje Andino," COSIPLAN-IIRSA, 2014, en <http://www.iirsa.org/andino.asp>

2 At 2012 current prices.

The Hub's infrastructure is determined by the presence of the Andes, which gives rise to two distinct territorial spaces.

On the one hand, the western side of the Andes along the Pacific coast and the Caribbean sea has an infrastructure network made up of 30 sea ports, and a great number of roads connecting them with one another and with the interior of the countries. The national capital cities, other important cities and centers of economic activity are located here. On the other hand, the eastern side of the Andes extends up to the Amazon basin and, in general, features administrative units with limited infrastructure in terms of land connectivity, lower population density, and considerably less economic development.

The matrix of pre-existing and planned connectivity infrastructure focuses mainly on the road and, to a lesser extent, the rail subsectors.

Although river transportation is present in the Hub, it is not significant enough, as the tributaries of the Amazon basin are at their source and, therefore, are not deep enough regarding vessel draft. Thus, when the river depth so allows it, deeper draft vessels that navigate regularly are in the area of influence of the Amazon Hub.

The Hub is also characterized by the presence of a great number of ports distributed along the Pacific and Atlantic coasts, which determines that the transportation of goods is mainly carried out by sea given its lower costs and better operational facilities.

The Andean Hub features the two large north-south road corridors that connect the main cities of the countries that make it up (Bolivia, Colombia, Ecuador, Peru and Venezuela): the Pan-American Highway, and the Marginal Highway of the Jungle. These longitudinal corridors are crossed by various transversal corridors (roads and rivers) that connect them with the Guianese Shield (GUY), Amazon (AMA), Peru-Brazil-Bolivia (PBB) and Central Interoceanic (IOC) Hubs.

The entire **road network** of the countries that make up the Hub covers 443,588 km, 16% of which are paved (about 69,986 km). The **railway network** totals 11,216 km, about 75% of which are active lines. The **sea port system** of the Andean Hub features 30 major ports, most of them located on the Pacific ocean, except for those on the Caribbean coasts of Venezuela and Colombia. Most **river transportation** activities in the region are carried out along the Orinoco, Magdalena and Amazon basins and its tributaries. Concerning **electricity generation**, as of 2012 the countries involved in the Hub had a joint installed power of about 53,747 MW.

The presence and diversity of **indigenous communities** is significant in the Hub, as there are approximately 270 peoples living in the five countries that make it up, reaching a total population of about 7,000,000 inhabitants. This situation is very important in many subnational administrative units, where indigenous population accounts for more than 70% of the total.

Regarding the **protected areas** in the Hub, there are more than 600 administrative units with some degree of environmental protection, totaling approximately 774,000 km², which accounts for 27% of the Hub's total area. Many of these administrative units are inhabited by indigenous communities and are characterized by their high biological diversity, a low degree of human intervention and the presence of high flora and fauna endemism rates.

Of the **natural hazards** affecting the Hub, four global or regional hazards have been considered, namely: earthquakes, volcanoes, tsunamis, and floods of large basins. In addition, in the Cordilleran areas, there is a localized though frequent and damaging hazard, as are landslides.

The countries involved in the Amazon Hub defined five API projects for the purpose of consolidating connectivity in their territories. They are made up of 13 individual projects from the COSIPLAN Portfolio, and amount to an investment estimated at US\$3,857 million.

Ecuador contributes almost 95% of its GDP to the Hub, and Peru almost 90%, Venezuela approximately 80%, Colombia 76% and Bolivia 54%. In absolute terms, Venezuela and Colombia contribute 35% and 33%, respectively, to the Hub's aggregate GDP; while Peru accounts for 21%, and Ecuador and Bolivia for only 9% and 2%, respectively.

A noteworthy trend in the Hub's global economic performance is its growth rate in the 2008-2012 period, which reached an average of 4%.

The Hub shares some regions of its area of influence with other six Hubs: the Amazon (AMA), the Guianese Shield (GUY), the Peru-Brazil-Bolivia (PBB), the Central Interoceanic (IOC), the Paraguay-Paraná Waterway (HPP), and the Capricorn (CAP) Hubs.

ANDEAN

API Projects

The API projects belonging to this Hub seek to consolidate the socio-economic and tourism relations at both the regional and international levels.

The investments involved amount to US\$3,857 million, which makes the Andean Hub rank second in API in terms of estimated investment, surpassed only by the Capricorn Hub.

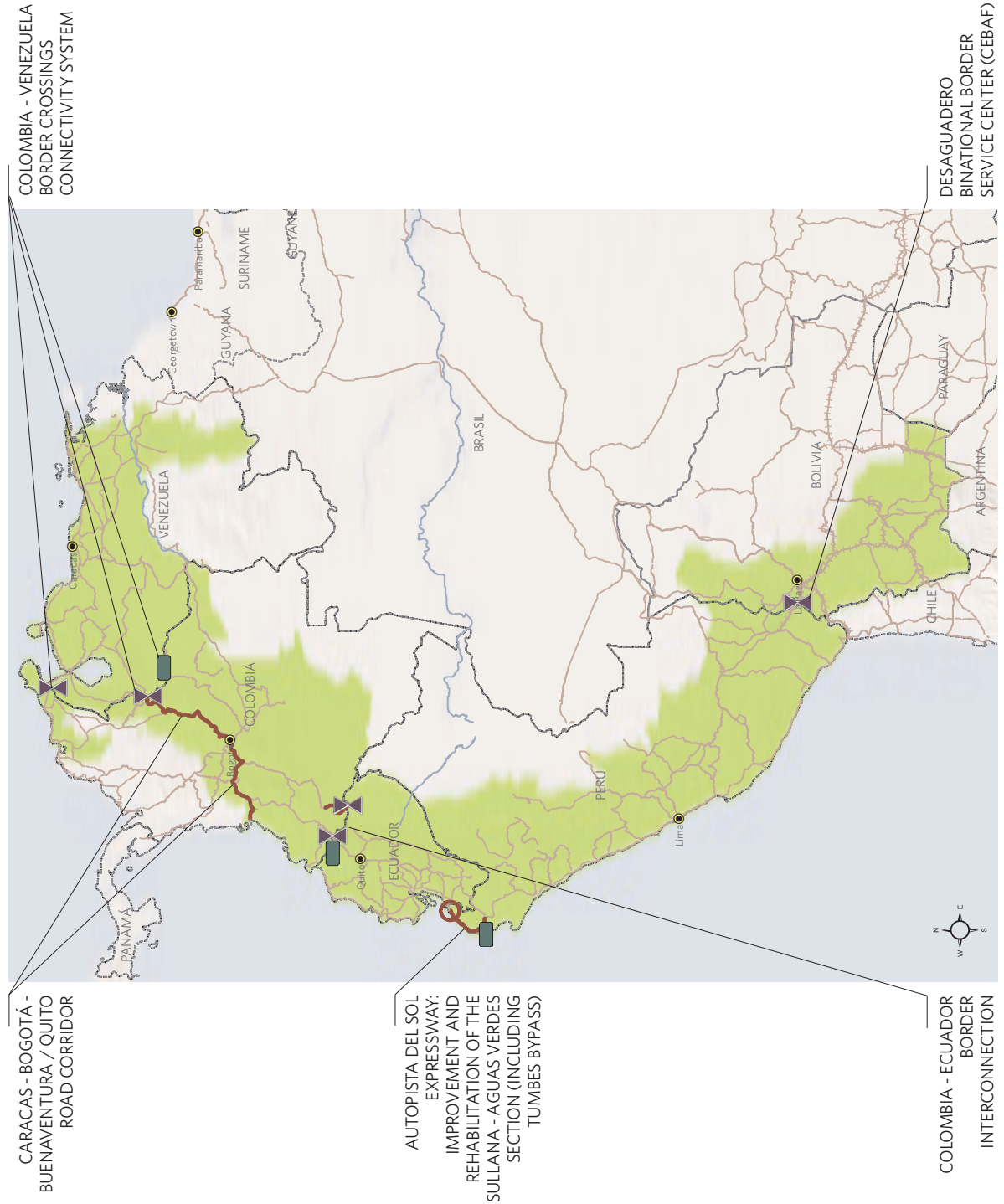
The structured projects are intended to improve connectivity —through road corridors, border infrastructure, and bridges— between the following countries: Colombia-Venezuela, Ecuador-Colombia-Venezuela, Peru-Ecuador, Colombia-Ecuador, and Peru-Bolivia.

The structured project with the greatest estimated investment planned for this Hub is the Caracas - Bogotá - Buenaventura / Quito Road Corridor (US\$2,286 million), which is also the second API project with the highest investment.



This project is made up of two individual projects, one of them —the Bogotá - Buenaventura Road Corridor (US\$1,950 million)— being the second API individual project in terms of investment amount. This corridor, linked to waterways and multimodal projects, can connect the Pacific and Atlantic oceans, representing an alternative to the Panama Canal for the flow of goods. For this reason, it forms part of two project groups of the COSIPLAN Portfolio and falls in the category of “hinge projects.”

As regards the other projects, three of them focus on border complexes to contribute to binational connectivity (Colombia-Ecuador, Colombia-Venezuela, Bolivia-Peru). The other project is Peruvian and consists in a road corridor that joins Peru’s coastal areas with Ecuador and with the Colombian southern Pacific coast.





API PROJECTS IN THE ANDEAN HUB






API PROJECTS IN THE ANDEAN HUB *US\$ million**API 4. CARACAS - BOGOTÁ - BUENAVENTURA / QUITO ROAD CORRIDOR****Estimated Investment:*** 2,825.7 | **Countries:** CO - EC - VE

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND05	BOGOTÁ - CÚCUTA ROAD CORRIDOR	2		875.7	CO	December 2022
AND07	BOGOTÁ - BUENAVENTURA ROAD CORRIDOR	2		1,950.0	CO	December 2018


API 5. COLOMBIA - ECUADOR BORDER INTERCONNECTION**Estimated Investment:*** 319.2 | **Countries:** CO - EC

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND31	BINATIONAL BORDER SERVICE CENTER (CEBAF) AT SAN MIGUEL	6		0.0	CO - EC	ND
AND79	IMPROVEMENT AND PAVING OF THE MOCOA - SANTA ANA - SAN MIGUEL ROAD SECTION	6		210.4	CO	December 2016
AND82	IMPLEMENTATION OF THE BINATIONAL BORDER SERVICE CENTER (CEBAF) AT THE TULCÁN - IPIALES (RUMICHACA) BORDER CROSSING	2		104.7	CO - EC	December 2019
AND91	CONSTRUCTION OF THE NEW INTERNATIONAL RUMICHACA BRIDGE AND IMPROVEMENT OF THE EXISTING BRIDGE	2		4.1	CO - EC	November 2013

API 6. COLOMBIA - VENEZUELA BORDER CROSSINGS CONNECTIVITY SYSTEM**Estimated Investment:*** 17.2 | **Countries:** CO - VE




Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND02	BINATIONAL BORDER SERVICE CENTER (CEBAF) AT PARAGUACHÓN	1		2.0	VE	ND
AND13	IMPROVEMENT OF JOSÉ ANTONIO PÁEZ BRIDGE	3		1.2	CO	August 2005
AND81	IMPROVEMENT OF THE BORDER CROSSINGS IN THE NORTHERN DEPARTMENT OF SANTANDER AND THE TÁCHIRA STATE	2		14.0	CO - VE	December 2017

API 7. DESAGUADERO BINATIONAL BORDER SERVICE CENTER (CEBAF)**Estimated Investment:*** 29.9 | **Countries:** BO - PE

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND47	DESAGUADERO BINATIONAL BORDER SERVICE CENTER (CEBAF)	8		29.9	BO - PE	October 2016

API 8. AUTOPISTA DEL SOL EXPRESSWAY: IMPROVEMENT AND REHABILITATION OF THE SULLANA - AGUAS VERDES SECTION (INCLUDING TUMBES BYPASS)

Estimated Investment:* 666.4 | **Countries:** PE

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND99	UPGRADE OF SULLANA - TUMBES - TURN-OFF TO THE INTERNATIONAL BYPASS ROAD TO A FOUR-LANE ROAD	5		472.4	PE	ND
AND100	REHABILITATION AND CONSTRUCTION OF BRIDGES ALONG THE SULLANA - TUMBES --TURN-OFF TO THE INTERNATIONAL BYPASS ROAD	5		139.1	PE	June 2018
AND101	CONSTRUCTION OF TUMBES BYPASS	5		54.9	PE	ND

 PROFILING  PRE-EXECUTION  EXECUTION  COMPLETED

Almost all the individual projects are financed with public funds, except for a completed project and for project Upgrade of Sullana - Tumbes - Turn-off to the International Bypass Road to a Four-lane Road, financed with public-private funds.

The two individual projects with the greatest estimated investment are part of the same structured project, Caracas - Bogotá - Buenaventura / Quito Road Corridor, and amount to US\$1,950 million and US\$876 million, respectively. Both are national Colombian projects and are publicly financed: the former is at the execution stage while the latter is at the pre-execution stage.

The third individual project in terms of estimated investment is Upgrade of Sullana - Tumbes - Turn-off to the International Bypass Road to a Four-lane Road, which involves an amount estimated at US\$472 million.

Only 10 of the 13 individual projects have a known completion date or have already been completed, and six of them would be completed before the next four-year period (2019).

TECHNICAL SPECIFICATIONS OF THE HUB'S PROJECTS**ROAD SUBSECTOR**

- Paving, upgrade to four lanes, and rehabilitation of 988.6 km of roads, including tunnels and bridges
- Improvement and paving of 180 km of roads
- Upgrade to four lanes of a 260-km long road, building of road interchanges and pedestrian bridges, and traffic signing, road marking and complementary works
- Construction of a bypass including an 18.65-km long four-lane road, two road interchanges, two grade-separated junctions, and two bridges
- Construction of a 71.2-m long bridge
- Improvement of two bridges (80-m and 167.1-m long)
- Construction and rehabilitation of 42 bridges

**BORDER CROSSINGS SUBSECTOR**

- Construction of three binational border service centers
- Improvement works in some border crossings

CARACAS - BOGOTÁ - BUENAVENTURA / QUITO ROAD CORRIDOR

COLOMBIA - ECUADOR - VENEZUELA

Subsector: Road

Estimated Investment: US\$2,825,722,669

Type of financing: Public

Project stage: Pre-execution

Life cycle stage and number of projects: Pre-execution (1);
execution (1)

Estimated Date of Completion:
December 2021

CARACAS - BOGOTÁ - BUENAVENTURA / QUITO ROAD CORRIDOR PROJECT







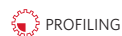
AND API 4

Rationale

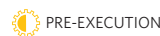
This structured project articulates the largest urban centers of Colombia, Ecuador, and Venezuela, and strengthens the main international trade flows by road in the Andean Hub. In addition, this project as well as the Colombia - Venezuela Border Crossings Connectivity System project create important benefits and cross-border synergies, and strengthen regional connectivity networks. Moreover, the main complementary action identified for the Buenaventura port is the logistics activity zone, while in the case of the Cúcuta-Bucaramanga road, some complementary actions in its area of influence have been proposed in order to mitigate the social and environmental impact.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND05	BOGOTÁ - CÚCUTA ROAD CORRIDOR	2		875.7	CO	December 2022
AND07	BOGOTÁ - BUENAVENTURA ROAD CORRIDOR	2		1,950.0	CO	December 2018



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Structured Project Technical Specifications

- Paving, upgrade to four lanes, and rehabilitation of 988.6 km of roads, including tunnels and bridges

Last Year's Major Developments

As for the Bogotá-Cúcuta Road Corridor (AND05), progress was made in some of its sections:

- Bogotá-Bucaramanga: This section would be completed in December 2016.
- Bucaramanga-Pamplona: Works have been carried out in this section through the programs known as Competitiveness and Prosperity Corridors (public works) between 2009-2016.
- New projects: This project forms part of the structuring of the Fourth Generation of Concessions (4G Program) and at present some adjustments are being introduced to the structuring with the purpose of opening a bidding process during this term.

Regarding the Bogotá-Buenaventura Road Corridor (AND07), progress in the following sections as of March 2016 was as follows:

- Bogotá-Girardot: Different alternatives are being currently reviewed to enlarge some strategic sectors (third lane).
- Girardot-Cajamarca: The Ibagué-Cajamarca section forms part of the structuring of the Fourth Generation of Concessions (4G Program, Private Initiative) and was recently awarded: works are estimated to take eight years.

COLOMBIA - ECUADOR BORDER INTERCONNECTION

COLOMBIA - ECUADOR

Subsectors: Road, border crossings
Estimated Investment: US\$319,160,412
Type of financing: Public
Project stage: Execution
Life cycle stage and number of projects: Pre-execution (1), execution (1), completed (2)

Estimated Date of Completion:
December 2019

COLOMBIA - ECUADOR BORDER INTERCONNECTION PROJECT



For more information, visit <http://www.iirsa.org/api05.asp>



AND API 5

Rationale

This structured project is highly significant, as trade between Ecuador and Colombia ranks second in international trade by road within the Andean Hub; furthermore, the project helps complete the missing links in the corridor known as the “Low-Altitude Corridor” or “Alternative Corridor,” linking Bogotá and Quito, and solves pending issues in the Ecuador-Colombia border crossings. The structured project is expected to reinforce the connectivity networks between southern Colombia and the most important cities of Ecuador, creating significant benefits and cross-border synergies. In addition, an important opportunity for the development of logistics and production integration processes is identified.

One of the major conclusions that can be drawn from the bilateral trade balance is that if a solution is found to the issues that slow down trade, such as cargo transfer activities, the potential for growth and complementarity of both economies will bring about a remarkable level of economic integration.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND31	BINATIONAL BORDER SERVICE CENTER (CEBAF) AT SAN MIGUEL	6		0.0	CO - EC	ND
AND79	IMPROVEMENT AND PAVING OF THE MOCOA - SANTA ANA - SAN MIGUEL ROAD SECTION	6		210.4	CO	December 2016
AND82	IMPLEMENTATION OF THE BINATIONAL BORDER SERVICE CENTER (CEBAF) AT THE TULCÁN - IPIALES (RUMICHACA) BORDER CROSSING	2		104.7	CO - EC	December 2019
AND91	CONSTRUCTION OF THE NEW INTERNATIONAL RUMICHACA BRIDGE AND IMPROVEMENT OF THE EXISTING BRIDGE	2		4.1	CO - EC	November 2013



PROFILING



PRE-EXECUTION



EXECUTION



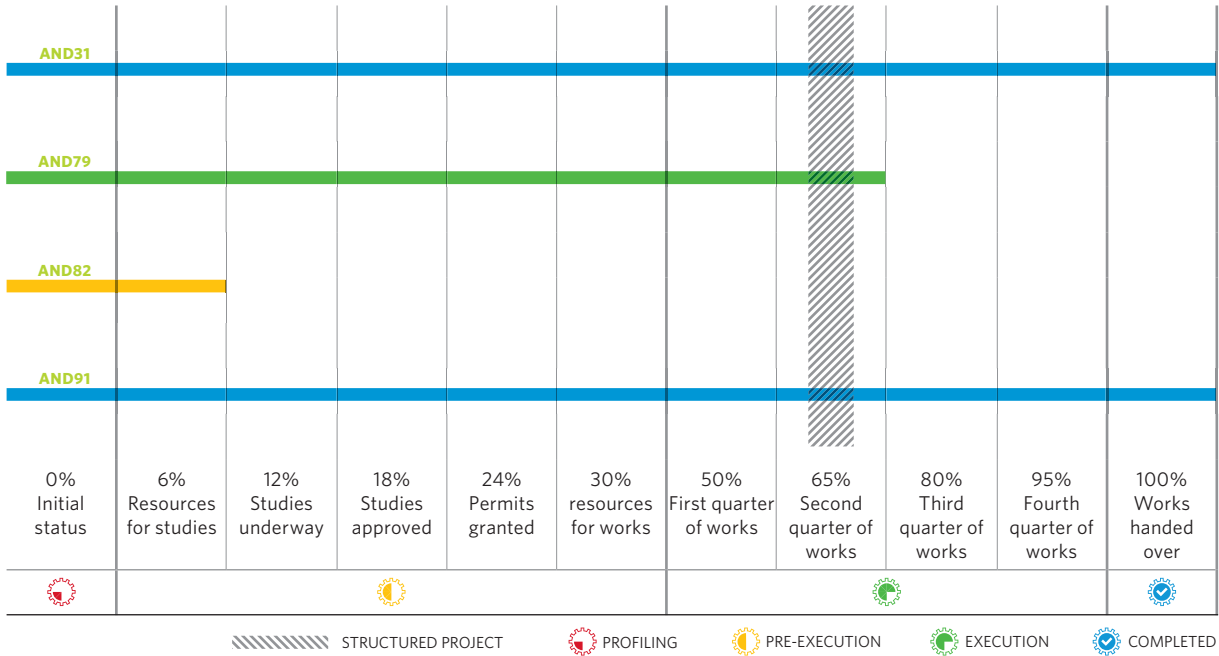
COMPLETED

Structured Project Technical Specifications

- Construction of two binational border service centers
- Improvement and paving of 180 km of roads
- Construction of a 71.2-m long bridge
- Improvement of an 80-m long bridge

COLOMBIA - ECUADOR BORDER INTERCONNECTION PROJECT

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



Last Year's Major Developments

The contract to pave the remaining 24 km of the Santa Ana - San Miguel section of project Improvement and Paving of the Mocoa - Santa Ana - San Miguel Road Section (AND79) was awarded. The date of completion is estimated for 2019.

COLOMBIA - VENEZUELA BORDER CROSSINGS CONNECTIVITY SYSTEM

COLOMBIA - VENEZUELA

Subsectors: Border crossings, road

Estimated Investment: US\$16,000,000

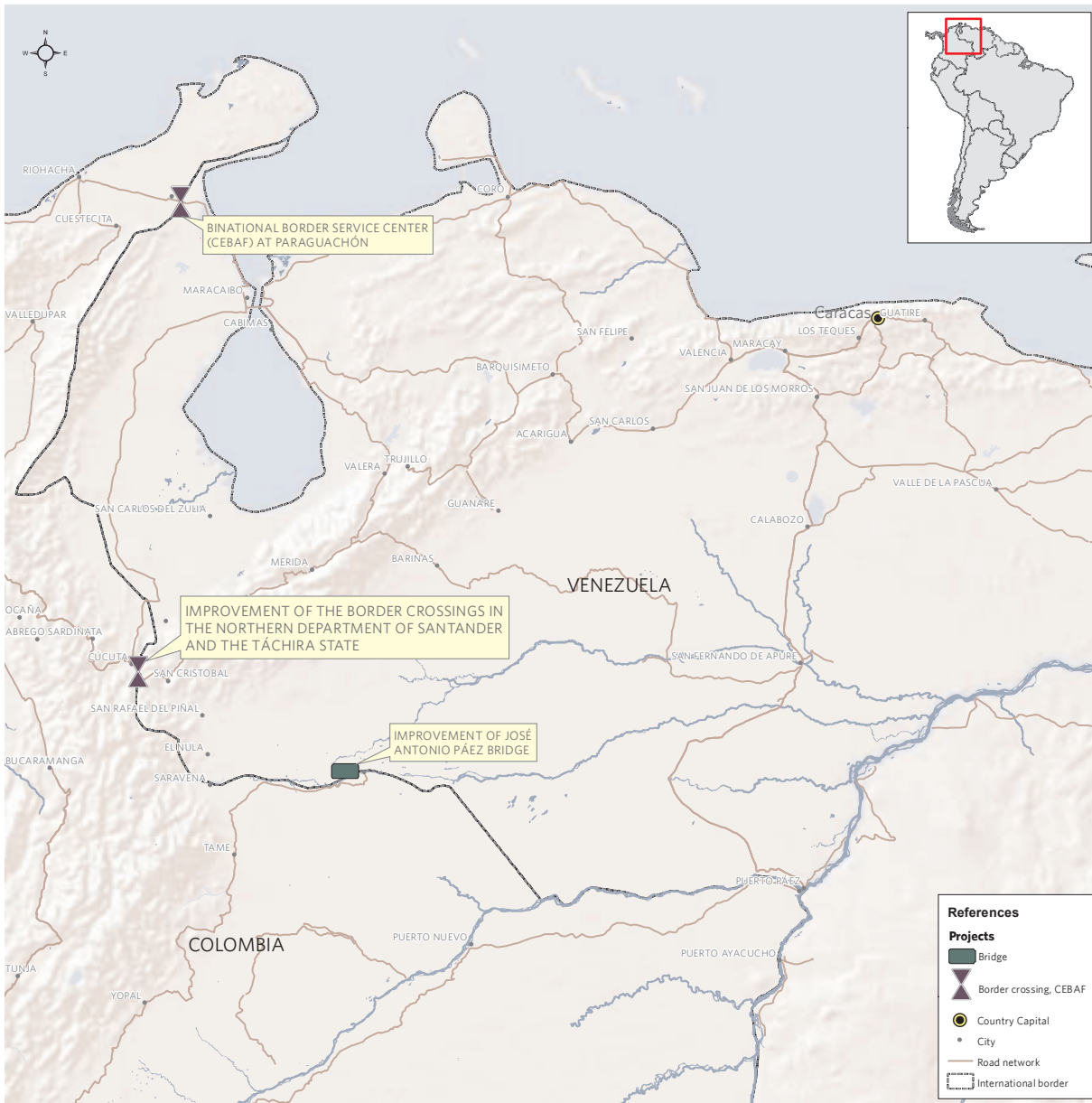
Type of financing: Public-private

Project stage: Execution

Life cycle stage and number of projects: Pre-execution (1), execution (1), completed (1)

Estimated Date of Completion:
December 2017

COLOMBIA - VENEZUELA BORDER CROSSINGS CONNECTIVITY SYSTEM PROJECT





AND API 6

Rationale

This structured project is designed to address existing problems, missing links and bottlenecks in the most important border crossings between Colombia and Venezuela, which concentrate the largest international trade flows by road in the Andean Hub. The project includes the design of a development plan to implement the actions and infrastructure works involved.

The challenges to this structured project are basically institutional, as great convergence efforts are required to implement integrated controls in the entire land connection system between Colombia and Venezuela.

INDIVIDUAL PROJECTS *US\$ million

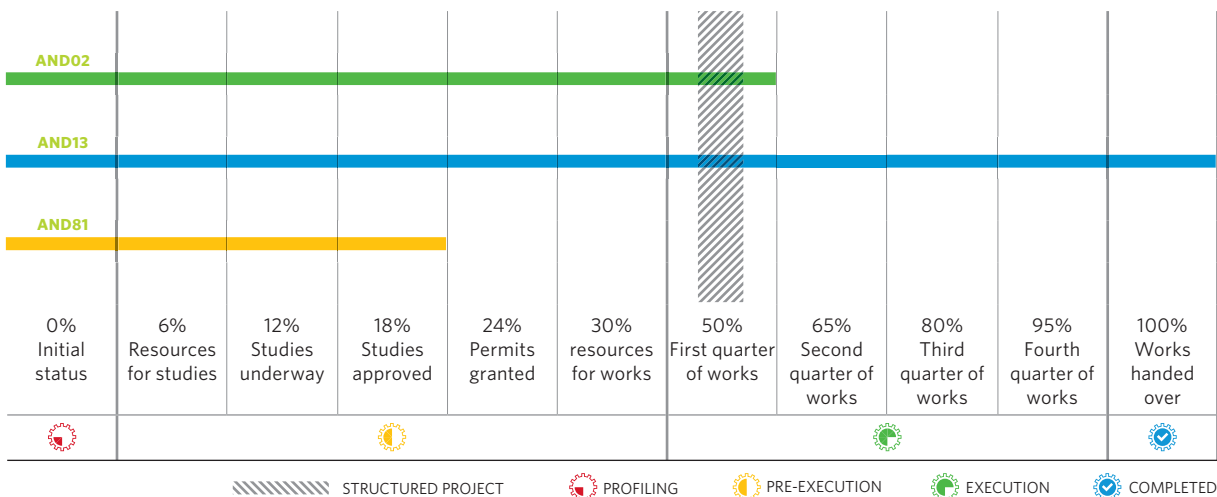
Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND02	BINATIONAL BORDER SERVICE CENTER (CEBAF) AT PARAGUACHÓN	1		2.0	VE	ND
AND13	IMPROVEMENT OF JOSÉ ANTONIO PÁEZ BRIDGE	3		1.2	CO	ND
AND81	IMPROVEMENT OF THE BORDER CROSSINGS IN THE NORTHERN DEPARTMENT OF SANTANDER AND THE TÁCHIRA STATE	2		14.0	CO - VE	December 2017

PROFILING PRE-EXECUTION EXECUTION COMPLETED

Structured Project Technical Specifications

- Construction of a binational border service center with four stations
- Improvement of a 167.1-m long bridge
- Improvement of some border crossings

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



DESAGUADERO BINATIONAL BORDER SERVICE CENTER (CEBAF)

BOLIVIA - PERU

Subsector: Border crossings

Estimated Investment: US\$29,941,511

Type of financing: Public

Project stage: Execution

Life cycle stage and number of projects: Execution (1)

Estimated Date of Completion:
October 2016

DESAGUADERO BINATIONAL BORDER SERVICE CENTER (CEBAF) PROJECT



For more information, visit <http://www.iirsa.org/api07.asp>



AND API 7

Rationale

The purpose of the project is to facilitate the flow of people, vehicles and goods, fostering bilateral as well as regional trade. In addition, complementary actions associated with the regulatory frameworks and with binationally-integrated border control operations have been identified. Border controls are currently performed in provisional facilities located in an easement area. These rudimentary conditions pose obstacles to smooth bilateral trade and tourism.

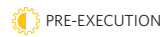
The opening of the new international bridge and the expected gradual closing of the “old” one has put on the agenda the urgent need for both countries to address the social issue in the town of Desaguadero on both sides, as the startup of the CEBAF has raised concerns among local residents as to the possibility that their way of life and border trade be destroyed. It is worth mentioning that the Desaguadero border crossing is the most important one for trade between Peru and Bolivia.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND47	DESAGUADERO BINATIONAL BORDER SERVICE CENTER (CEBAF)	8		29.9	BO - PE	October 2016



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Structured Project Technical Specifications

- Construction of a binational border service center

Last Year's Major Developments

The third quarter of the works involved in project Desaguadero Binational Border Service Center (CEBAF), which made 30% progress, was completed.

AUTOPISTA DEL SOL EXPRESSWAY: IMPROVEMENT AND REHABILITATION OF THE SULLANA - AGUAS VERDES SECTION (INCLUDING TUMBES BYPASS)

PERU

Subsector: Road

Estimated Investment: US\$666,332,950

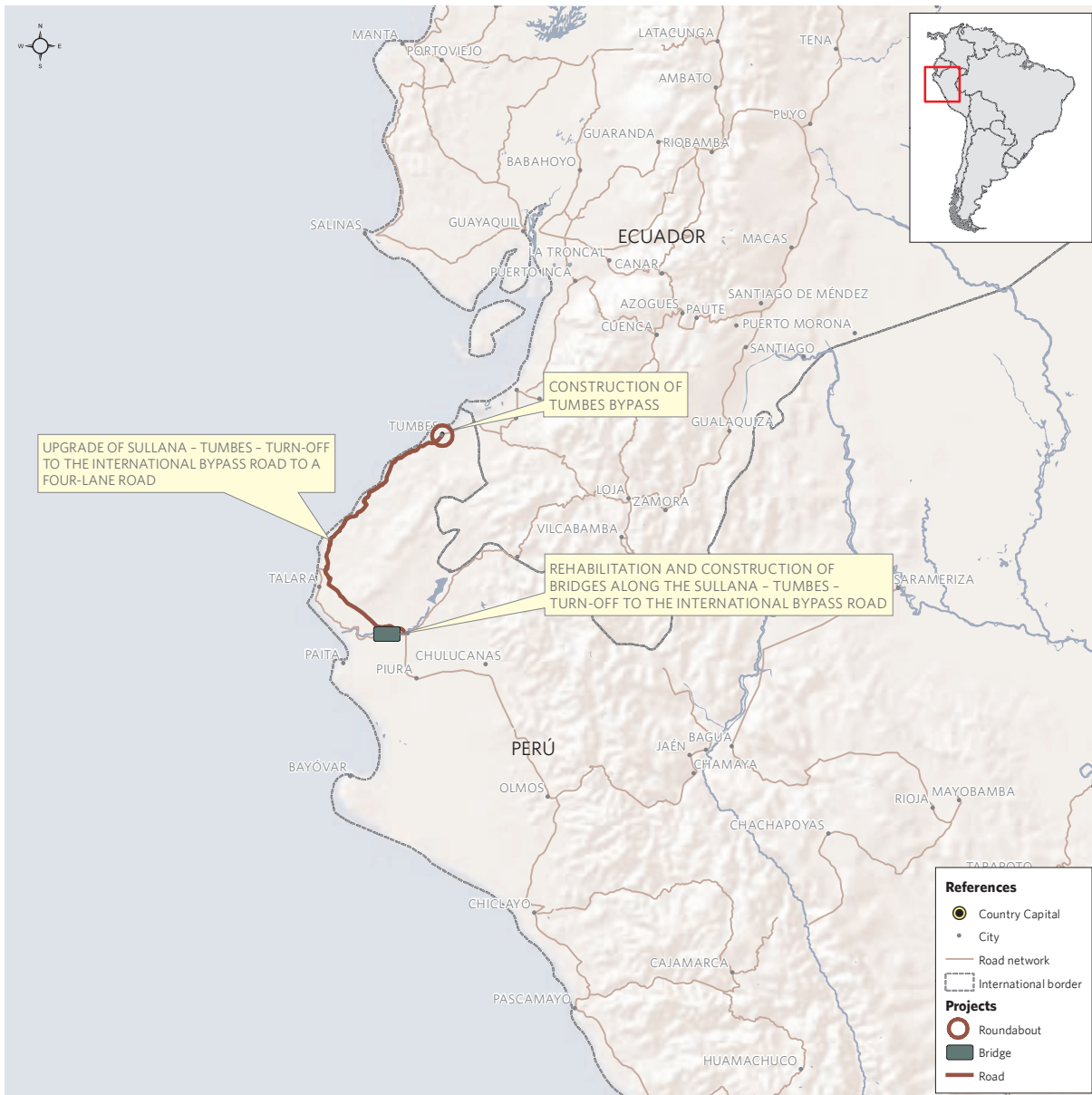
Type of financing: Public-private

Project stage: Execution

Life cycle stage and number of projects: Profiling (1); pre-execution (1); execution (1)

Estimated Date of Completion:
July 2017

AUTOPISTA DEL SOL EXPRESSWAY: IMPROVEMENT AND REHABILITATION OF THE SULLANA - AGUAS VERDES SECTION (INCLUDING TUMBES BYPASS) PROJECT





AND API 8

Rationale

This structured project is located on the most dynamic section of the most widely used road corridor of Peru, i.e. the North Pan-American Highway, which forms part of the structuring logistics corridor and is linked to one of the most important border crossings. This project is the most important one for connecting by land the north of Peru and the south of Ecuador in terms of trade; thus, it consolidates and enhances a regional connectivity network, creating significant cross-border synergies. Additionally, actions intended to harmonize transport-related standards are identified since there are still cargo transfer deficiencies at the border.

Within the framework of the Binational Plan, both Peru and Ecuador have been implementing various multisectoral actions at the bilateral level to facilitate services and increase trade and tourism flows on the common border—with the purpose of enhancing living conditions in the border region— as well as to improve the road network and border control. Some of the most important projects included in the Binational Plan involve five bilateral road axes; their objective is to create a land interconnection network that will serve as a basis for development in the common border area.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND99	UPGRADE OF SULLANA - TUMBES - TURN-OFF TO THE INTERNATIONAL BYPASS ROAD TO A FOUR-LANE ROAD	5		472.4	PE	ND
AND100	REHABILITATION AND CONSTRUCTION OF BRIDGES ALONG THE SULLANA - TUMBES - TURN-OFF TO THE INTERNATIONAL BYPASS ROAD	5		139.1	PE	July 2017
AND101	CONSTRUCTION OF TUMBES BYPASS	5		54.9	PE	ND



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Structured Project Technical Specifications

- Upgrade to four lanes of a 260-km long road, building of road interchanges and pedestrian bridges, and traffic signing, road marking and complementary works
- Construction of a bypass including a 18.65-km long four-lane road, two road interchanges, two grade-separated junctions, and two bridges
- Construction and rehabilitation of 42 bridges

AUTOPISTA DEL SOL EXPRESSWAY: IMPROVEMENT AND REHABILITATION OF THE SULLANA - AGUAS VERDES SECTION (INCLUDING TUMBES BYPASS)

Last Year's Major Developments

Regarding the project Construction of Tumbes Bypass (AND101), an invitation to tender in a single package is still being prepared for the final feasibility study, whose terms of reference and estimation of referential value are being defined. The tender for the final feasibility study is estimated to be issued in July 2016 and the study is likely to start in October 2016.

As for the Upgrade of Sullana - Tumbes - Turn-Off to the International Bypass Road to a Four-lane Road project (AND100), the bridges Las Monjas (30 m), Caleta Grau (30 m), Manuela (50 m), Canoas (50 m), Intercambio Vial Piura (40 m) and Canl Dren (10 m) have been completed. Furthermore, the Pasamayito bridge (200 m) is being built. As from the first quarter of 2017, 35 bridges will start to be rehabilitated and improved, among which the following can be mentioned: Venados (350 m), Charan (60 m), El Viejo (42 m), Palo Santo (70 m), Escudero (252 m), Pichichaco (301 m), Peña (200 m), Jabonillal (105 m), Nuro (105 m) and Debora 1 (70 m).

CAP CAPRICORN

Integration and Development Hub



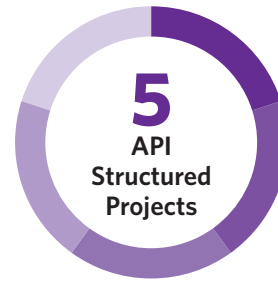
Population 53,509,280
Population density 19.7 people/km²
Area 2,722,534 km²

GDP US\$575,422 million
Services 75.0%
Industries 13.9%
Agriculture 5.9%
Mining and quarrying 5.2%

Estimated Investment

US\$ million

7,478.4



Projects by Stage



PROFILING

4

1,839.0



PRE-EXECUTION

8

4,414.4



EXECUTION

4

670.0



COMPLETED

2

555.0

Projects by Sector



Transport

16

6,626.4



Energy

2

852.0

Projects by Type of Financing



Public

16

6,916.4



Private

1

500.0



Public-private

1

62.0

Projects by Subsector

Transport



Road

4

1,374.2



Rail

9

5,086.0



Border
crossings

3

166.2

Energy



Energy
Interconnection

2

852.0

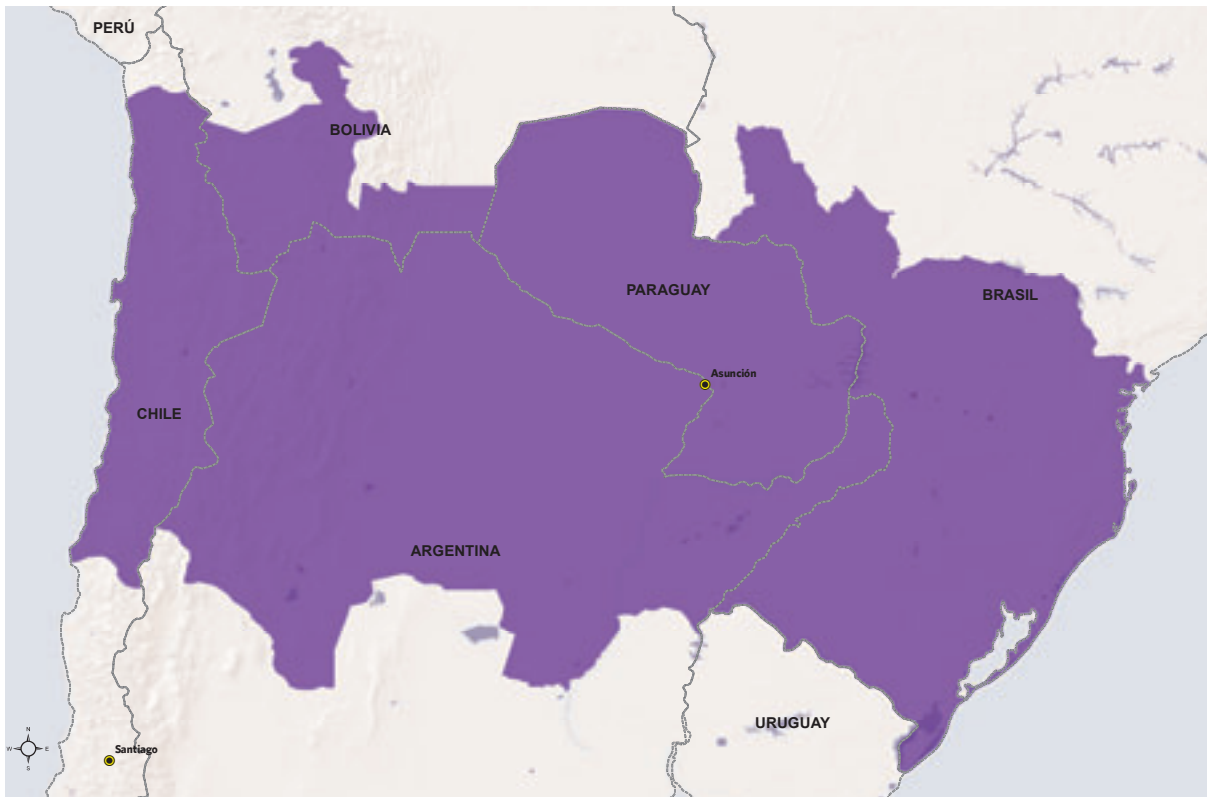
CAPRICORN

Presentation of the Hub

The Capricorn Hub⁽¹⁾ runs along the Pacific coast of Chile, the Andean region of Bolivia, the north of Argentina, the whole territory of Paraguay, and the Brazilian states on the Atlantic coast (Rio Grande do Sul, Santa Catarina, Paraná, and part of Matto Grosso do Sul).

It accounts for 15% of the territory (2,722,534 km²), 13% of the population (53,509,280 inhabitants), and 13% of the Gross Domestic Product (GDP) of South America, amounting to US\$575,422 million.⁽²⁾ The Capricorn Hub ranks sixth if these data are considered.

AREA OF INFLUENCE OF THE CAPRICORN HUB



The **road network** of the countries involved in the Hub covers a total length of 2,117,539 km, of which only 15% are paved. There are several road corridors connecting agricultural production areas and mineral extraction centers located in the central region of the Hub with ports on the Paraguay and Paraná rivers as well as ports located on the Brazilian Atlantic coastline. The **railway network** covers 61,424 km, of which approximately 87% are operational. There are important railway connections in different degree of preservation and condition for operation running mostly from east to west, connecting the ports on both

¹ See "Caracterización Socioeconómica y Ambiental del Eje del Escudo Guayanés," COSIPLAN-IIRSA, 2015, at <http://www.iirsa.org/capricornio.asp>

² At 2013 current prices.

oceans with the interior of the countries. However, it is necessary to extend the existing sections in order to connect the ports of Paranaguá on the Atlantic and Antofagasta on the Pacific. **The sea and river port system** is made up of 25 major ports —four of which handle more than 10,000,000 tons— that are located mainly on the coasts of the Atlantic ocean and along the Paraná and Paraguay rivers, to which the Chilean ports on the Pacific should be added. Most **river transportation** activities in the region are carried out along the Paraná and Paraguay rivers, which jointly make up the major river communication route in the region and which are vitally important for Paraguayan and Bolivian agricultural production to reach the sea ports. The **airport system** features 39 major airports, 17 of which are international. Passenger service is adequate, with good airport infrastructure and several connections to the main cities in the interior of the countries. Cargo transportation by air is very limited and is mainly concerned with the import of industrial manufactures from countries other than those included in the Hub. As for **electricity generation**, as of 2013 the countries involved in the Hub had a joint installed power of about 184,656 MW.

The presence of **indigenous communities** in the territory of the Capricorn Hub is very significant, particularly in Bolivia and the northern area of Argentina and, to a lesser extent, in the eastern region of Paraguay, whereas their presence is limited in Brazil and Chile.

At present, there are approximately four hundred administrative units with some degree of **environmental protection**, totaling about 162,000 km², accounting for 6% of the total area of the Hub.

The **natural hazards** affecting the Capricorn Hub include earthquakes, volcanoes, tsunamis, and floods of large basins. Landslides are also considered, which though localized, are frequent and highly damaging.

The countries involved in the Capricorn Hub defined five API projects for the purpose of consolidating connectivity in their territories. They are made up of 18 individual projects from the COSIPLAN Portfolio, and amount to an investment estimated at US\$7,478 million.

Paraguay contributes 100% of its economy, whereas the other countries contribute about 14% and 17% of their GDP to the Hub. In absolute terms, Brazil contributes 68% to the Hub's aggregate GDP, followed by Argentina (19%), Chile (7%), and Paraguay and Bolivia (4% and 1%, respectively).

Brazil and Argentina account for more than 74% of the trade among the countries in the Hub. In particular, Brazil is the main destination of the other four countries' exports, receiving more than 60% of their foreign trade. The main destination of Brazilian exports within the Hub is Argentina, accounting for 68% of its total export operations.

The Hub shares some regions of its area of influence with the MERCOSUR-Chile (MCC), Central Interoceanic (IOC), and Paraguay-Paraná Waterway (HPP) Hubs.

CAPRICORN

API Projects

The API projects belonging to the Capricorn Hub seek to promote the socioeconomic development of the Argentine, Brazilian, Chilean and Paraguayan areas involved by means of production integration and logistics; further traffic of bulk cargo from the region; the increase of alternative outlets to overseas markets for the Hub's products; reduced costs and greater security for the movement of people and trade in goods and services; the organization of territorial dynamics and the reduction of its environmental impact; and taking profit from the complementary opportunities for tourism.

The Capricorn Hub ranks first in terms of API estimated investment, with more than double of the amount planned to be invested in the second-ranking Hub (the Amazon Hub). Furthermore, it ranks second in terms of number of API projects (18), after the Amazon Hub (27).

The Capricorn Hub is home to one of the most challenging connectivity routes in API: the Paranaguá - Antofagasta Bioceanic Railway Corridor, a project intended to allow the movement of cargo across the continent, from the Brazilian coast on the Atlantic, through Paraguay, Argentina and Bolivia, up to the Chilean coast on the Pacific.

The Paranaguá - Antofagasta Bioceanic Railway Corridor is made up of nine individual projects aimed at rehabilitating rail lines, building missing stretches of track, and strengthening or upgrading bridges and freight yards, for an amount of US\$5,325 million, which accounts for 71% of the investments planned for the API projects located in this Hub.

The investment amount in this corridor is high because it includes the two individual projects with the greatest estimated investment in the Capricorn Hub: Construction of Ciudad del Este - Ñeembucú Railway (US\$2.8 billion), and Bioceanic Railway Corridor: Paranaguá - Cascavel Section and Guarapuava - Ingeniero Bley Railway Bypass (US\$1.5 billion).

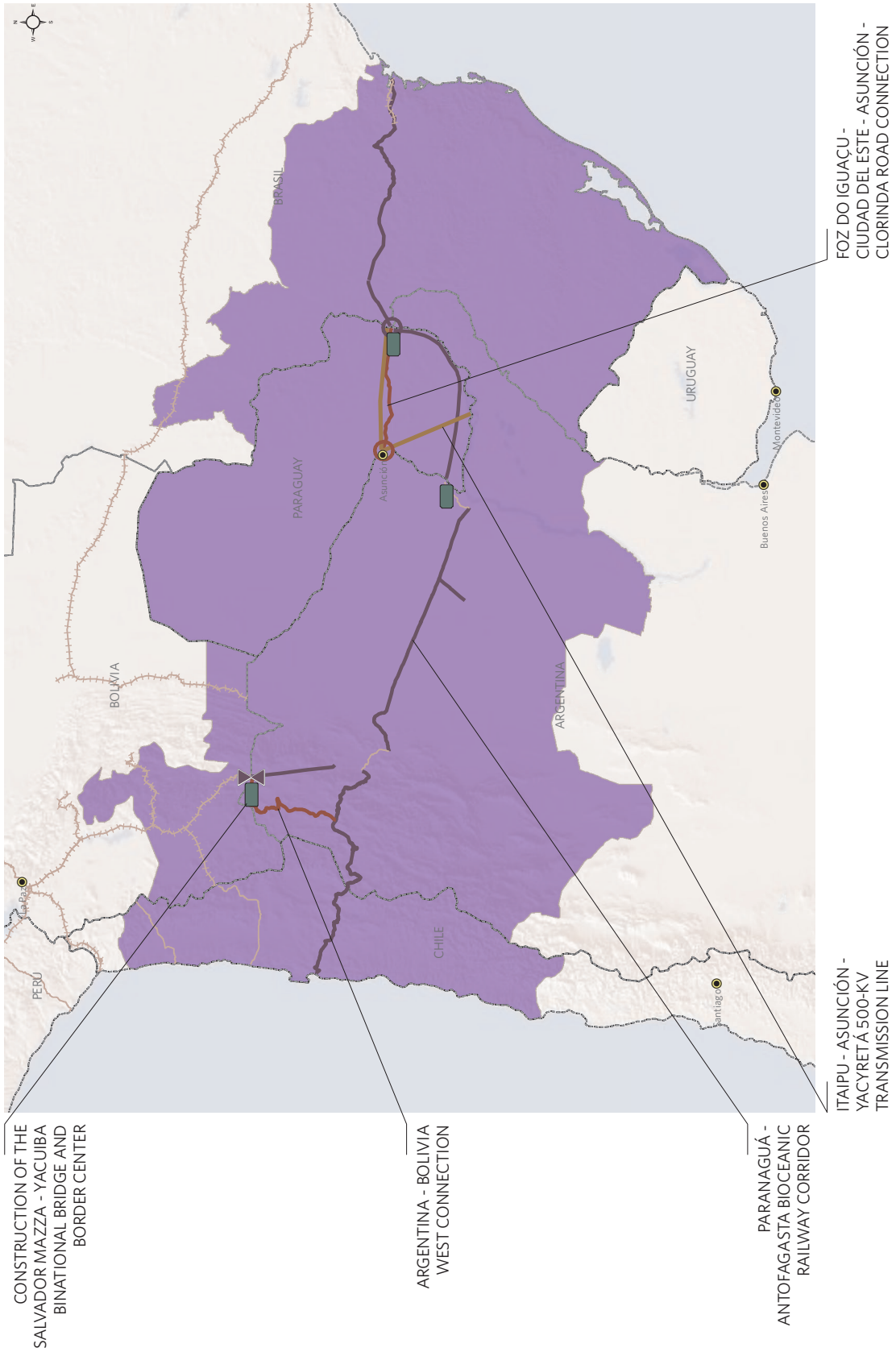
This structured project impacts on the four countries of the Hub and with its nine individual projects seeks to strengthen a connectivity network with a regional scope by integrating existing rail networks and consolidating them as a physical and operational single unit. In addition, it is intended to reduce medium- and long-distance logistics costs, encourage trade, and increase the use of more efficient transportation modes. The corridor will enable the transport of the increasing flows of imports and exports from and to South America, either through the Atlantic or the Pacific ocean. This access facilitation will have a positive impact on the integration of logistics and production chains, especially those related to grain, meat and mineral processing.

Construction of Ciudad del Este - Ñeembucú Railway is also the API individual project with the greatest investment.


Another two structured projects seek to strengthen connectivity between Argentina and Bolivia by promoting cross-border development, which involve different subsectors: a rail corridor, two international road bridges, and paving of a highway.

Regarding the other two structured projects, one is intended to further land connectivity between Argentina, Brazil and Paraguay by means of road and border crossing projects. The other one —the only Hub's project falling in the energy sector— involves the implementation of a 500-kV transmission line between Itaipu, Asunción and Yacyretá with the objective of enhancing power supply security in Paraguay and facilitating electricity exchange with Argentina through improved service quality and supply reliability.




API PROJECTS IN THE CAPRICORN HUB












API PROJECTS IN THE CAPRICORN HUB *US\$ million**API 9: CONSTRUCTION OF THE SALVADOR MAZZA - YACUIBA BINATIONAL BRIDGE AND BORDER CENTER****Estimated Investment:*** 45.0 | **Countries:** AR - BO

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP10	CONSTRUCTION OF THE SALVADOR MAZZA - YACUIBA BINATIONAL BRIDGE AND BORDER CENTER	2		45.0	AR - BO	December 2019

API 10. ARGENTINA - BOLIVIA WEST CONNECTION**Estimated Investment:*** 477.0 | **Countries:** AR - BO

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP11	REHABILITATION OF JUJUY - LA QUIACA RAILWAY	2		62.0	AR	December 2020
CAP50	PAVING OF NATIONAL ROUTE No. 40, MINING CORRIDOR PATH (BORDER WITH BOLIVIA)	2		400.0	AR	December 2018
CAP81	LA QUIACA - VILLAZÓN BRIDGE AND BORDER CENTER	2		15.0	AR - BO	December 2021

API 11. PARANAGUÁ - ANTOFAGASTA BIOCEANIC RAILWAY CORRIDOR**Estimated Investment:*** 5,826.2 | **Countries:** AR - BR - CH - PY

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP20	CASCAVEL - FOZ DO IGUAÇU BIOCEANIC RAILWAY CORRIDOR	3		324.0	BR	ND
CAP23	STUDY FOR THE OPTIMIZATION OF THE ÑEEMBUCÚ -BERMEJO NODE	4		301.2	AR - PY	March 2020
CAP29	CONSTRUCTION OF CIUDAD DEL ESTE - PILAR ÑEEMBUCÚ	4		2,800.0	PY	January 2022
CAP37	REHABILITATION OF THE C3 RAILWAY BRANCH LINE: RESISTENCIA - AVIA TERAÍ - PINEDO	1		100.0	AR	December 2018
CAP38	REHABILITATION OF THE C12 RAILWAY BRANCH LINE: AVIA TERAÍ - METÁN	1		200.0	AR	December 2018
CAP39	REHABILITATION OF THE C14 RAILWAY BRANCH LINE: SALTA - SOCOMPA	1		100.0	AR	December 2018
CAP52	RAILWAY BRIDGE WITH FREIGHT YARD (CIUDAD DEL ESTE - FOZ DO IGUAÇU)	3		0.0	BR - PY	ND
CAP53	BIOCEANIC RAILWAY CORRIDOR: PARANAGUÁ - CASCAVEL SECTION AND GUARAPUAVA - INGENIERO BLEY RAILWAY BYPASS	3		1,500.0	BR	ND
CAP91	BIOCEANIC RAILWAY CORRIDOR, CHILEAN SECTION (ANTOFAGASTA - SOCOMPA)	1		501.0	CH	December 1947



PROFILING



PRE-EXECUTION






EXECUTION





COMPLETED

API 12. FOZ DO IGUAÇU - CIUDAD DEL ESTE - ASUNCIÓN - CLORINDA ROAD CONNECTION**Estimated Investment:*** 779.2 | **Countries:** AR - BR - PY

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP07	OPTIMIZATION OF THE CLORINDA - ASUNCIÓN NODE	1		106.2	AR - PY	December 2020
CAP14	NEW PUERTO PRESIDENTE FRANCO - PORTO MEIRA BRIDGE, WITH A PARAGUAY - BRAZIL INTEGRATED CONTROL AREA	3		173.0	BR - PY	December 2019
CAP18	CONCESSION FOR THE IMPROVEMENT OF ROUTES No. 2 AND 7 (ASUNCIÓN - CIUDAD DEL ESTE)	3		500.0	PY	December 2020

API 13. ITAIPU - ASUNCIÓN - YACYRETÁ 500-KV TRANSMISSION LINE**Estimated Investment:*** 852.0 | **Countries:** BR - PY

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP67	500-KV TRANSMISSION LINE (ITAIPU - VILLA HAYES)	3		555.0	PY	October 2013
CAP68	500-KV TRANSMISSION LINE (YACYRETÁ - VILLA HAYES)	3		297.0	PY	August 2017

 PROFILING
  PRE-EXECUTION
  EXECUTION
  COMPLETED

As regards the estimated investment in the individual projects, the 500-kV Transmission Line (Itaipu - Villa Hayes), related to energy connectivity within the Hub, ranks third after the two railways, with a significantly lower investment amount. This project was completed in 2013. The three projects are publicly financed and national in scope: two belong to Paraguay and one to Brazil. The project was completed in 2013.

The three projects considered are financed with public funds and are national in scope: two are Paraguayan and the other one is Brazilian.

It is estimated that seven of the 16 active individual projects will be completed in the next four years (up to 2019) and six between 2019 and 2022, there being no information available on the other three of them.

TECHNICAL SPECIFICATIONS OF THE HUB'S PROJECTS**ROAD SUBSECTOR**

- Paving and improvement of 580 km of roads
- Construction of 9.7 km of approach roads
- Upgrade of a road interchange
- Construction of four bridges: a 30-m long one, a 760-m long one, and a bridge with a freight yard
- Improvement of a bimodal bridge

**BORDER CROSSINGS SUBSECTOR**

- Construction of two border centers, one of them with an area of 24.8 ha

**RAIL SUBSECTOR**

- Construction and rehabilitation of 3,026.4 km of railroads

**ENERGY INTERCONNECTION SUBSECTOR**

- Improvement of two 500-kV transmission lines running along 710.9 km

CONSTRUCTION OF THE SALVADOR MAZZA - YACUIBA BINATIONAL BRIDGE AND BORDER CENTER

ARGENTINA - BOLIVIA

Subsector: Border crossings
Estimated Investment: US\$45,000,000
Type of financing: Public
Project stage: Pre-execution
Life cycle project and number of projects: Pre-execution (1)

Estimated Date of Completion:
December 2019

CONSTRUCTION OF THE SALVADOR MAZZA - YACUIBA BINATIONAL BRIDGE AND BORDER CENTER PROJECT






CAP API 9

Rationale

This structured project consolidates the regional networks and favors cross-border synergies between Argentina and Bolivia. The construction of a new bridge seeks to come up with a solution to the existing serious difficulties at the border crossing between both countries and to ensure the smooth flow of international freight and passenger traffic as well as of pedestrians. The problem is that the current bridge is an urban road used for both local border traffic and international traffic.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP10	CONSTRUCTION OF THE SALVADOR MAZZA - YACUIBA BINATIONAL BRIDGE AND BORDER CENTER	2		45.0	AR - BO	December 2019



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Structured Project Technical Specifications

- Construction of a 30-m long bridge
- Construction of a 24.8-ha border center
- Construction of 9.7 km of approach roads

ARGENTINA - BOLIVIA WEST CONNECTION

ARGENTINA - BOLIVIA

Subsector: Road, rail, border crossings

Estimated investment: US\$477.000.000

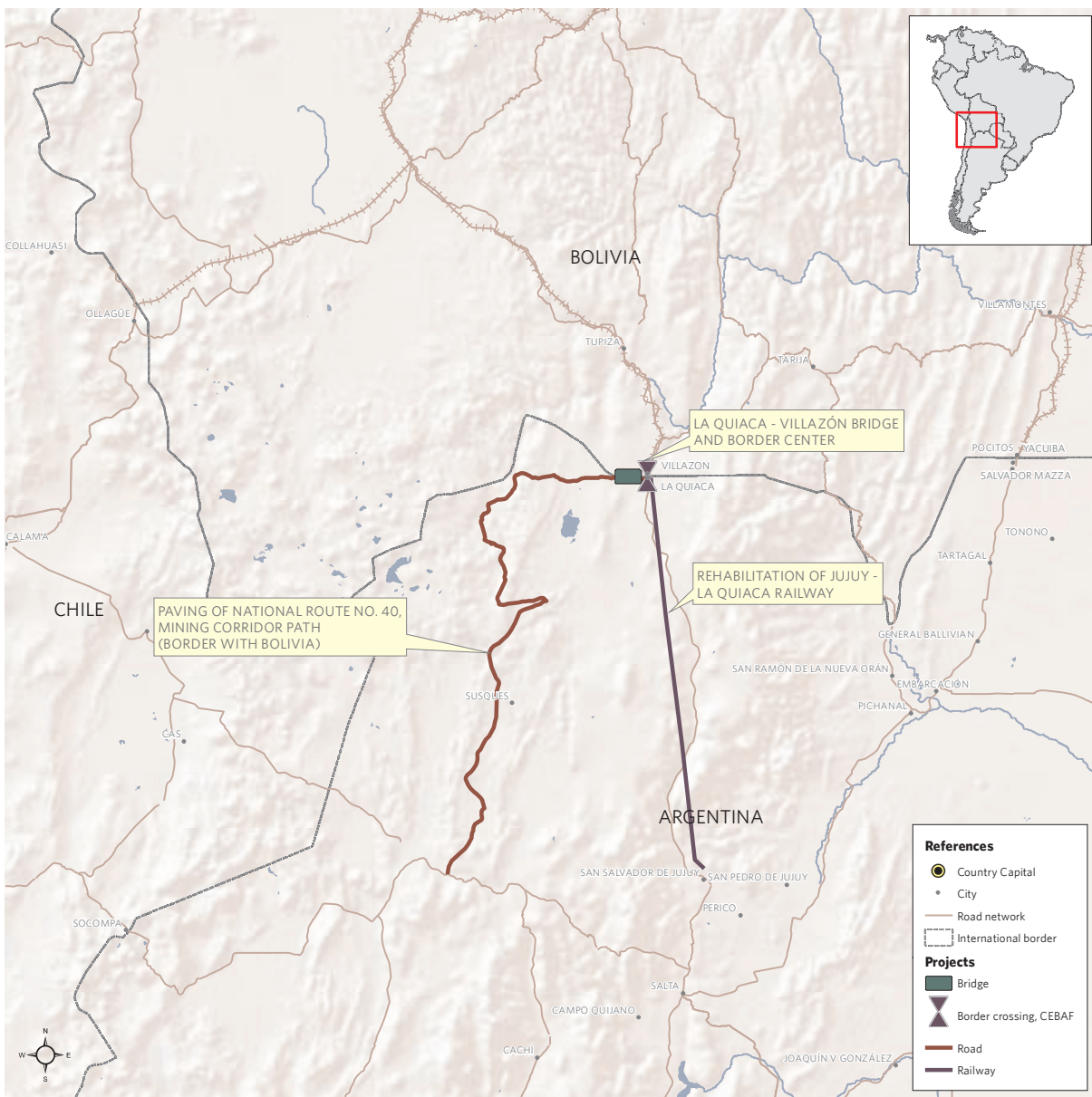
Type of financing: Public-private

Project stage: Pre-execution

Life cycle stage and number of projects: Profiling (1), pre- execution (2)

Estimated Date of Completion:
December 2021

ARGENTINA - BOLIVIA WEST CONNECTION PROJECT





CAP API 10

Rationale

The objective of this structured project is to solve the lack of efficient connectivity in the region, as the existing infrastructure has become a gridlock. The purpose is to turn the area into an integration node with a multimodal configuration, articulating and planning the use of the land, promoting the growth of production activities, and ordering traffic flows, thus preventing international freight trucks from entering border cities.

The project will create significant synergies in terms of binational integration through the implementation of the individual projects included, covering a territorial strip that goes from the province of Jujuy in Argentina to the city of Oruro in Bolivia.

The implementation of this project will result in a smoother connection between the countries and shorter wait times on both sides of the border for freight and passenger traffic. Thus, the new alignment of National Route No. 40 in Argentina, the construction of a new bridge, the establishment of a border center, and the rehabilitation of the Jujuy-La Quiaca railway will help reverse the sprawl of the cities and towns adjacent to the current border crossing and alleviate vehicular and pedestrian traffic.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP11	REHABILITATION OF JUJUY - LA QUIACA RAILWAY	2		62.0	AR	December 2020
CAP50	PAVING OF NATIONAL ROUTE No. 40, MINING CORRIDOR PATH (BORDER WITH BOLIVIA)	2		400.0	AR	December 2018
CAP81	LA QUIACA - VILLAZÓN BRIDGE AND BORDER CENTER	2		15.0	AR - BO	December 2021

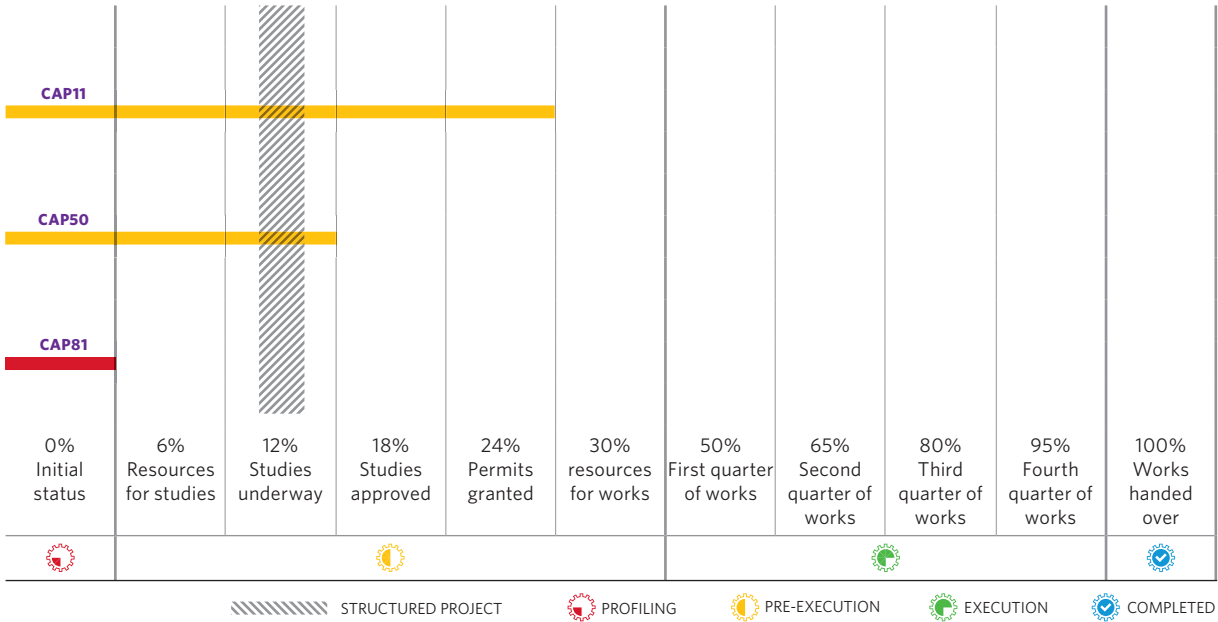
PROFILING
 PRE-EXECUTION
 EXECUTION
 COMPLETED

Structured Project Technical Specifications

- Rehabilitation of 284 km of rail tracks
- Paving of 300 km of roads
- Construction of a bridge and a border center

ARGENTINA - BOLIVIA WEST CONNECTION

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



Last Year's Major Developments

Regarding project Rehabilitation of Jujuy - La Quiaca Railway (CAP11), the province of Jujuy has already received the results of the pre-feasibility study for the rehabilitation of the rail infrastructure related to the Jujuy-La Quiaca section, known as Branch C.

With regard to project Paving of National Route No. 40, Mining Corridor Path (Border with Bolivia) (CAP50), the works for the section from Colanzulí to the border with Bolivia are ready to be put out to tender, while the studies on the other sections have already been completed in order to subsequently issue a call for tender.

Concerning the project La Quiaca - Villazón Bridge and Border Center (CAP81), both countries are in the process of agreeing upon the terms of reference to study the border area and jointly define the technical issues still pending.

PARANAGUÁ - ANTOFAGASTA BIOCEANIC RAILWAY CORRIDOR

ARGENTINA - BRAZIL - CHILE - PARAGUAY

Subsector: Road, rail

Estimated investment: US\$5,325,206,392

Type of financing: Public

Project stage: Execution

Life cycle stage and number of projects: Profiling (3), pre-execution (3), execution (2), completed (1)

Estimated Date of Completion:
January 2022

PARANAGUÁ - ANTOFAGASTA BIOCEANIC RAILWAY CORRIDOR PROJECT





CAP API 11

Rationale

This project aims at strengthening a connectivity network with a regional scope by integrating existing multilateral rail networks for cargo transportation in the Capricorn Hub, linking the countries concerned from the Antofagasta port, in Chile, through the northern area of Argentina, Paraguay and the Brazilian territory, up to the Paranaguá port in Brazil.

The bioceanic corridor seeks to reduce medium- and long-distance logistics costs; encourage trade between the eastern and western coasts of the continent; enable the transport of the increasing flows of imports and exports from and to South America, either through the Atlantic or the Pacific ocean; and have a positive impact on the integration of logistics and production chains, especially those related to grain, meat and mineral processing.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP20	CASCABEL - FOZ DO IGUAÇU BIOCEANIC RAILWAY CORRIDOR	3		324.0	BR	ND
CAP23	STUDY FOR THE OPTIMIZATION OF THE ÑEEMBUCÚ - BERMEJO NODE	4		301.2	AR - PY	March 2020
CAP29	CONSTRUCTION OF CIUDAD DEL ESTE - PILAR ÑEEMBUCÚ	4		2,800.0	PY	January 2022
CAP37	REHABILITATION OF THE C3 RAILWAY BRANCH LINE: RESISTENCIA - AVIA TERAI - PINEDO	1		100.0	AR	December 2018
CAP38	REHABILITATION OF THE C12 RAILWAY BRANCH LINE: AVIA TERAI - METÁN	1		200.0	AR	December 2018
CAP39	REHABILITATION OF THE C14 RAILWAY BRANCH LINE: SALTA - SOCOMPA	1		100.0	AR	December 2018
CAP52	RAILWAY BRIDGE WITH FREIGHT YARD (CIUDAD DEL ESTE - FOZ DO IGUAÇU)	3		0.0	BR - PY	ND
CAP53	BIOCEANIC RAILWAY CORRIDOR: PARANAGUÁ - CASCABEL SECTION AND GUARAPUAVA - INGENIERO BLEY RAILWAY BYPASS	3		1,500.0	BR	ND
CAP91	BIOCEANIC RAILWAY CORRIDOR, CHILEAN SECTION (ANTOFAGASTA - SOCOMPA)	1		501.0	CH	December 1947

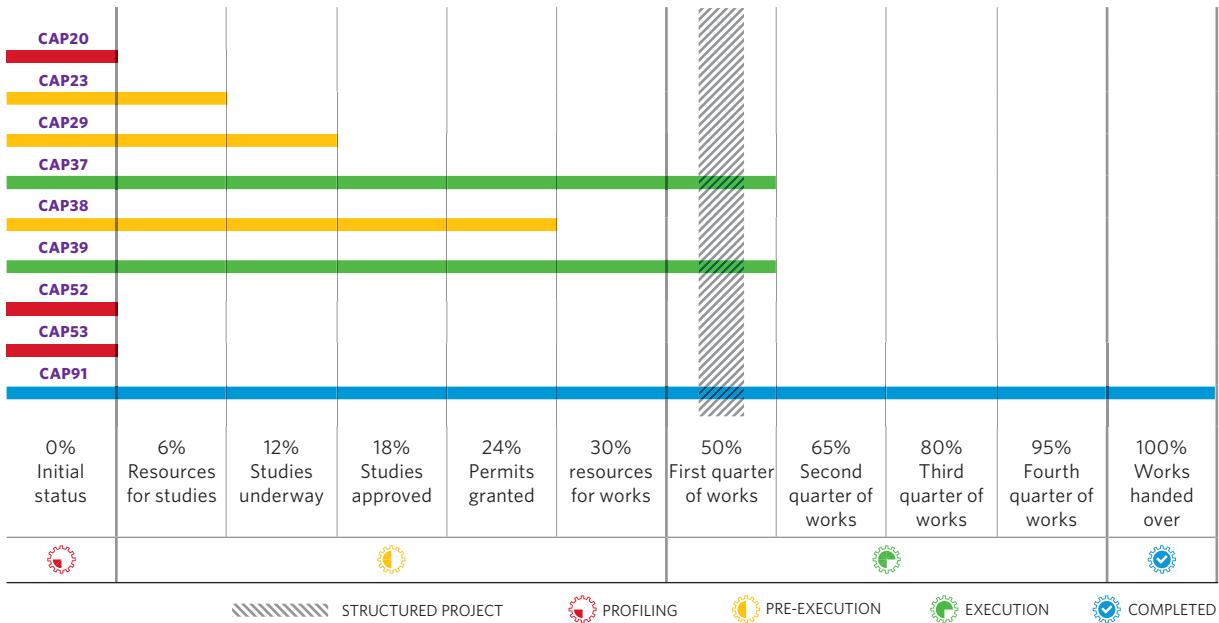
PROFILING
 PRE-EXECUTION
 EXECUTION
 COMPLETED

Structured Project Technical Specifications

- Rehabilitation of four railway branch lines running along a total of 1,543.4 km
- Construction of three rail corridors running along a total of 1,199 km
- Improvement of a bimodal bridge
- Construction of a bridge with a freight yard

PARANAGUÁ - ANTOFAGASTA BIOCEANIC RAILWAY CORRIDOR

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



Last Year's Major Developments

Regarding project Study for the Optimization of the Ñeembucú - Bermejo Node (CAP23), at present the technical, economic, environmental and legal feasibility studies for the short-, medium- and long-run works are being conducted. Their results were presented in partial report 3 and in the final report, respectively, which were received by the countries in November 2015.

As for project Rehabilitation of the C12 Railway Branch Line: Avia Terai - Metán (CAP38), 178 km have been completely refurbished, while the process to call for tender for the complementary works between J. V. González and Avia Terai is already underway.

FOZ DO IGUAÇU - CIUDAD DEL ESTE - ASUNCIÓN - CLORINDA ROAD CONNECTION

ARGENTINA - BRAZIL - PARAGUAY

Subsector: Road, border crossings

Estimated Investment: US\$779,206,392

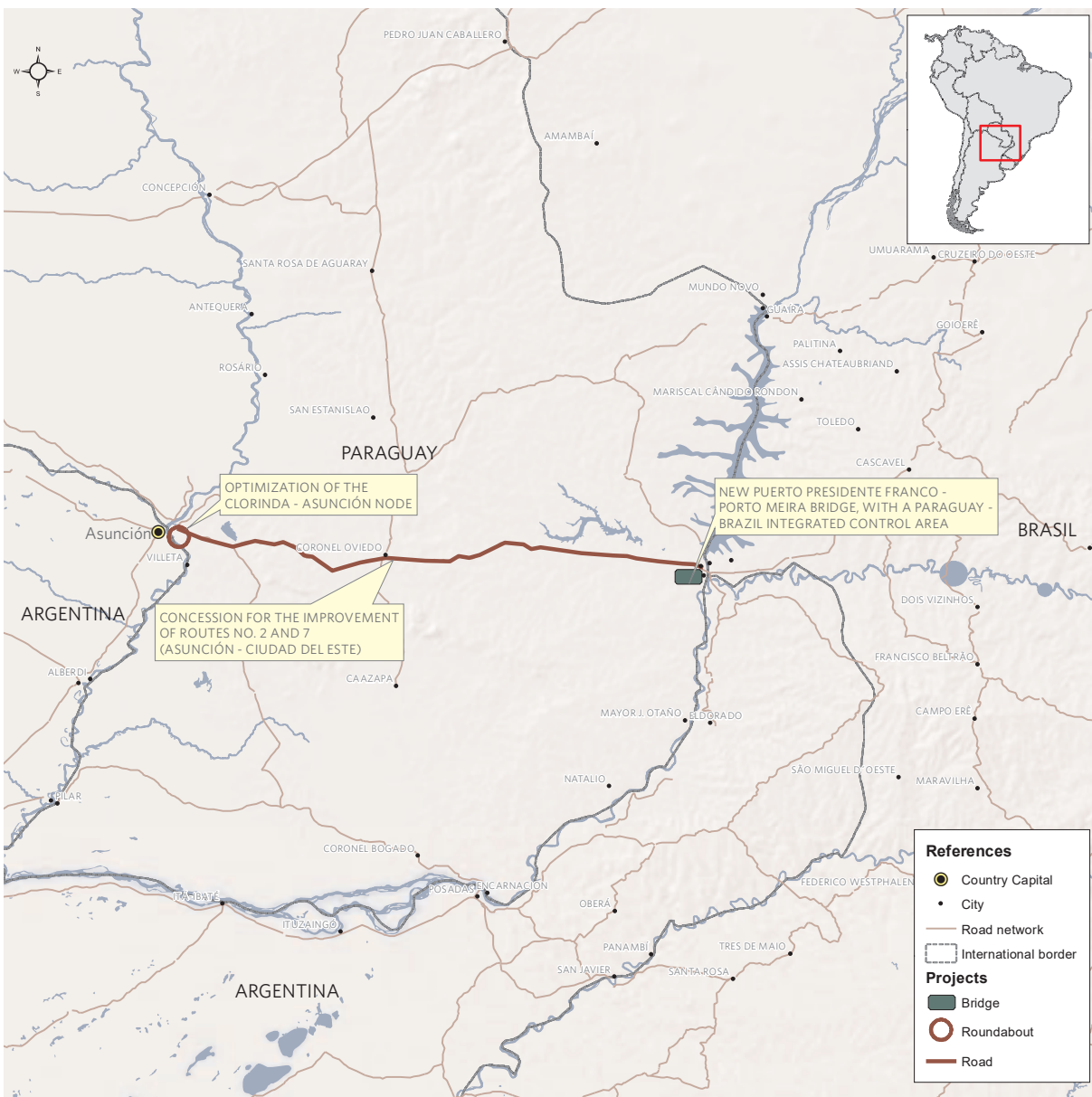
Type of financing: Public-private

Project stage: Pre-execution

Life cycle stage and number of projects: Pre-execution (2); execution (1)

Estimated Date of Completion:
December 2020

FOZ DO IGUAÇU - CIUDAD DEL ESTE - ASUNCIÓN - CLORINDA ROAD CONNECTION PROJECT





CAP API 12

Rationale

This structured project is fundamental to boost the economic activities carried out in the metropolitan capital of Paraguay that then go through the so-called Triple Frontier (Foz do Iguacu, Ciudad del Este, Puerto Iguazú) up to the city of Clorinda, in Argentina. It therefore strengthens networks that are regional in scope and is instrumental in fostering regional connectivity and logistics and production integration to improve the quality of life of the population in the countries involved.

INDIVIDUAL PROJECTS *US\$ million

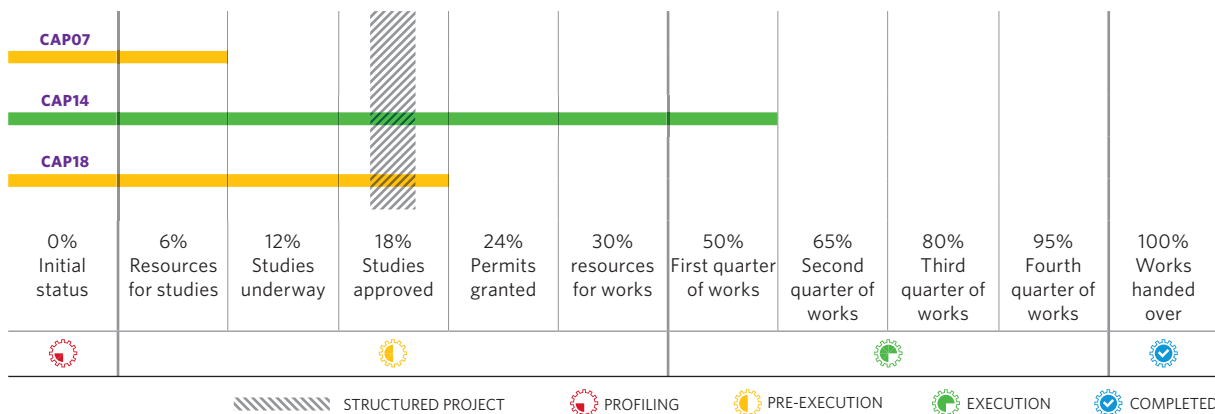
Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP07	OPTIMIZATION OF THE CLORINDA - ASUNCIÓN NODE	1		106.2	AR - PY	December 2020
CAP14	NEW PUERTO PRESIDENTE FRANCO - PORTO MEIRA BRIDGE, WITH A PARAGUAY - BRAZIL INTEGRATED CONTROL AREA	3		173.0	BR - PY	December 2019
CAP18	CONCESSION FOR THE IMPROVEMENT OF ROUTES No. 2 AND 7 (ASUNCIÓN - CIUDAD DEL ESTE)	3		500.0	PY	December 2020

PROFILING PRE-EXECUTION EXECUTION COMPLETED

Structured Project Technical Specifications

- Upgrade of a road interchange
- Construction of a 760-m long bridge
- Improvement of two routes along 280 km

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



Last Year's Major Developments

Project New Puerto Presidente Franco - Porto Meira Bridge, with a Paraguay - Brazil Integrated Control Area (CAP14) has made 20% progress since commencement of the works.

ITAIPU - ASUNCIÓN - YACYRETÁ 500-KV TRANSMISSION LINE

BRAZIL - PARAGUAY

Subsector: Energy interconnection

Estimated investment: US\$852,000,000

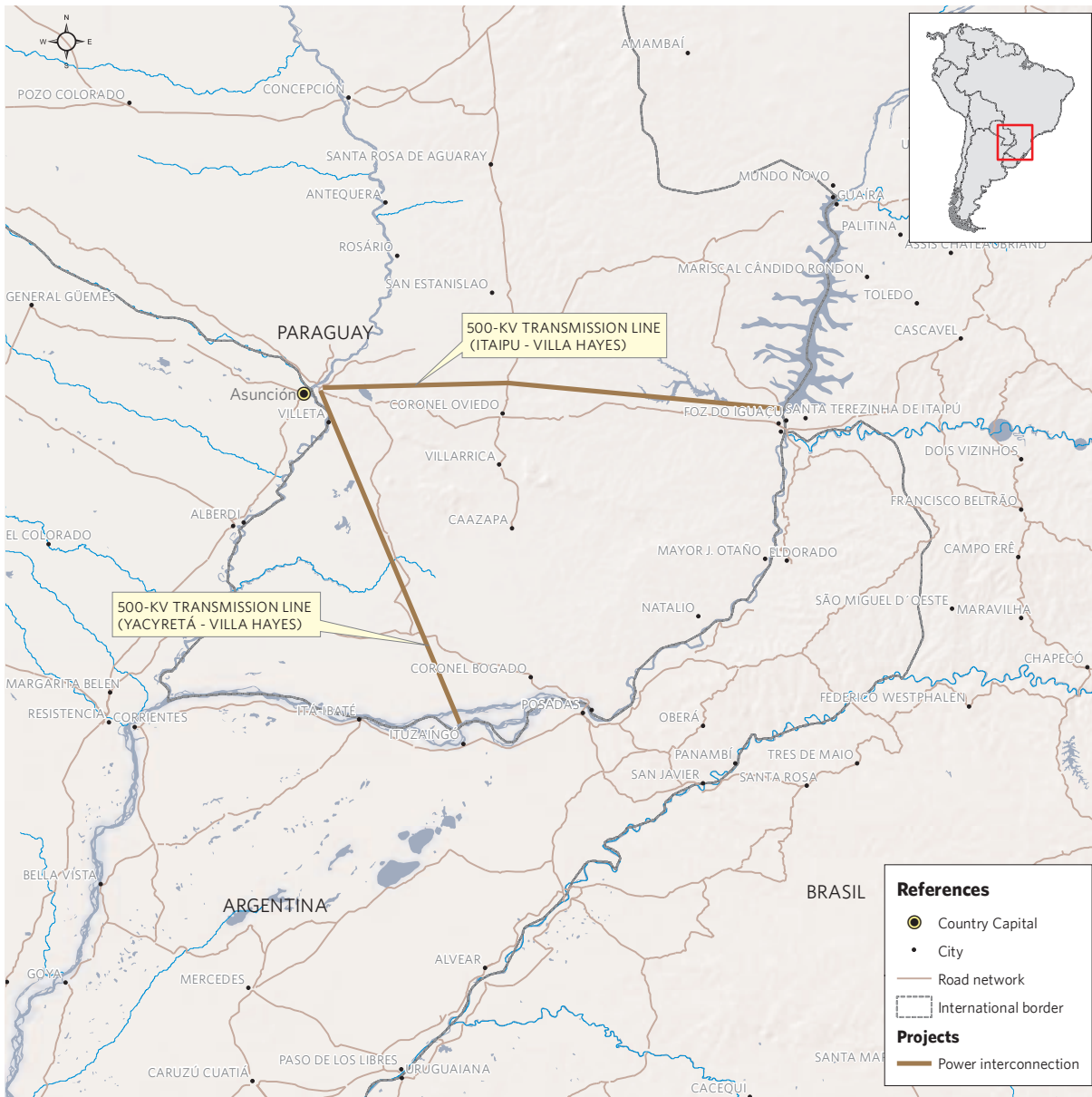
Type of financing: Public

Project stage: Execution

Life cycle stage and number of projects: Execution (1); completed (1)

Estimated Date of Completion:
August 2017

ITAIPU - ASUNCIÓN - YACYRETÁ 500-KV TRANSMISSION LINE PROJECT





CAP API 13

Rationale

This structured project supports networks with a regional scope, since it will substantially enhance power supply security in Paraguay as well as facilitate electricity exchange with Argentina through the 220-kV interconnection already in place between the cities of Clorinda (Argentina) and Guarambaré (Paraguay). Furthermore, the need for complementary actions in the regulatory field has been pointed out, with a view to facilitating trade in electric power between Argentina and Paraguay.

The purpose of the 500-kV Transmission Line (Itaipu - Villa Hayes) project is to improve service quality and supply reliability, providing a solution to the low voltage of the grid that supplies the city of Asunción, and to reduce the significant technical losses in transmission, which can be as high as 10% during peak hours. The transmission lines are currently operating at more than 85% of their capacity, and the power transformers of the interconnection with the Itaipu dam were already operating at full capacity in 2011.

INDIVIDUAL PROJECTS *US\$ million

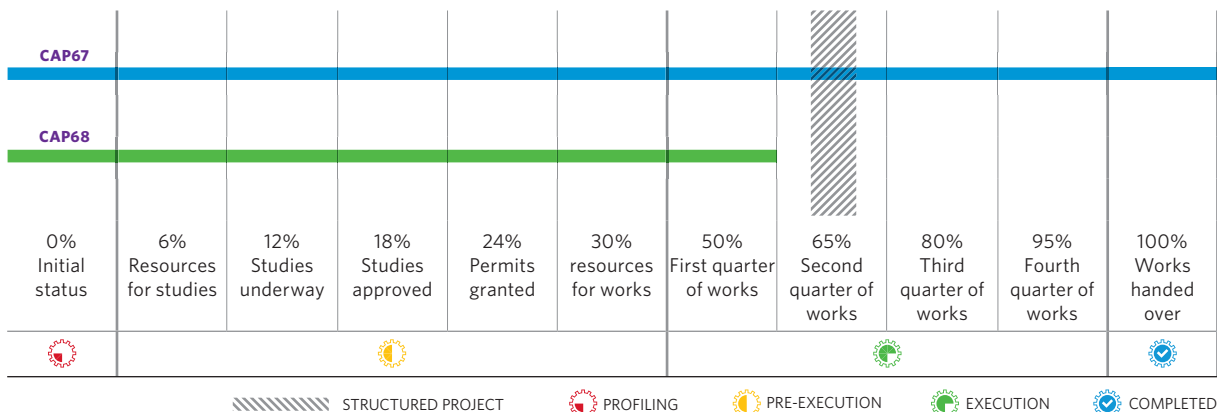
Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP67	500-KV TRANSMISSION LINE (ITAIPU - VILLA HAYES)	3		555.0	PY	October 2013
CAP68	500-KV TRANSMISSION LINE (YACYRETÁ - VILLA HAYES)	3		297.0	PY	August 2017

PROFILING
 PRE-EXECUTION
 EXECUTION
 COMPLETED

Structured Project Technical Specifications

- Two 500-kV transmission lines along 710.9 km

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



GUY GUIANESE SHIELD

Integration and Development Hub



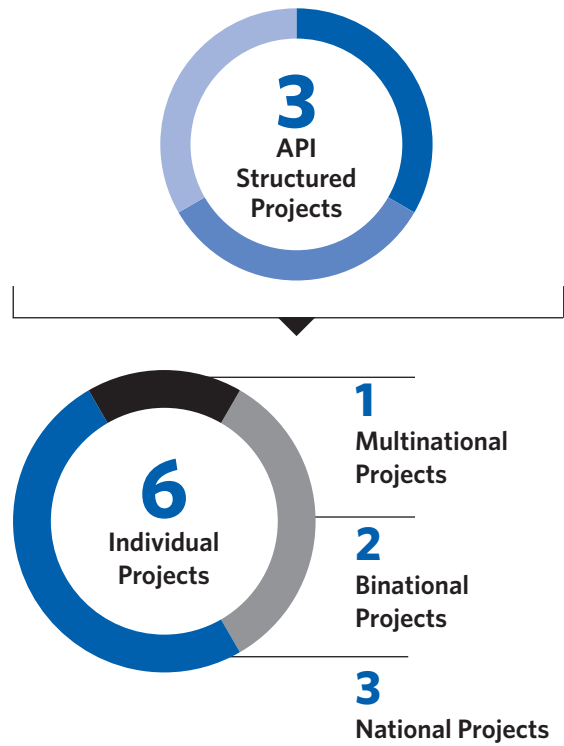
Population 17,100,505
Population density 10.7 people/km²
Area 1,603,643 km²

GDP US\$338,963 million
Services 76.7%
Industries 11.2%
Mining and quarrying 6.5%
Agriculture 5.6%

Estimated Investment

US\$ million

958.8



Projects by Stage



Projects by Sector



Transport
6
958.8

Projects by Type of Financing



Public
5
658.0



Public-private
1
300.8

Projects by Subsector

Transport



Road

6
958.8

GUIANESE SHIELD

Presentation of the Hub

The Guianese Shield Hub⁽¹⁾ covers all of the territory of Guyana and Suriname; a significant area of Venezuela—including the states that form part of the Orinoco basin, the Caracas Capital District, and the states on the northern coast of the country—; and in Brazil, the entire territory of the states of Roraima and Amapá as well as a smallest portion of the Amazonas and Pará states, including the municipality of Manaus, among others.

The Hub accounts for 9% of the territory (1,603,643 km²) and 4% of the population (17,100,505 inhabitants) of South America. It is the second Hub with the lowest population density, fewer than 11 inhabitants per km². The GDP of the countries that make up the Hub accounts for 7% of the region's GDP (US\$338,963 million).⁽²⁾

AREA OF INFLUENCE OF THE GUIANESE SHIELD HUB



With regard to infrastructure, the **road network** of the countries involved in the Guianese Shield Hub covers a total length of 1,705,747 km, 25% of which are paved. The **rail network** is 30,608 km long. The port

¹ See "Caracterización Socioeconómica y Ambiental del Eje del Escudo Guayanés," COSIPLAN-IIRSA, 2015, at <http://www.iirsa.org/escudo-guayanes.asp>

² At 2014 current prices.

system of the Hub is made up of 28 major ports, three of which handle more than three million tons per year; Porto Trombetas stands out among them as it handles more than 17 million tons yearly (Brazil).

Most **river transportation** activities in the region are carried out in the Amazon basin and the rivers that flow into the Atlantic ocean. The **airport system** features 32 airports, 15 of which are located in the Venezuelan territory. Of these 32 airports, 17 are international. The volume of freight transport is very limited, and mainly involves the import of industrial manufactures from countries outside the Hub. Concerning **electricity generation**, as of 2012 the countries involved in the Hub had a joint installed power capacity of about 250,000 MW, 51% of which was contributed by Venezuela and 49% by Brazil.

The presence of **indigenous communities** is very significant. In general, rural communities are engaged in subsistence activities outside the region's formal economy, or as rural and mining salaried workers, and, in some cases, they engage in subsistence agriculture. This way of life—sustainable in all cases—is constantly threatened by invasion of lands for forest extraction or by large-scale mining operations, which leads to the degradation of large expanses of woody areas and rainforest, which jeopardizes their economic, social and cultural survival. At present, there are about 125 territorial units in the Hub with some degree of **environmental protection**, covering approximately an area of 950,000 km², a significantly vast territory as it accounts for about **60% of the total area of the Hub**. A large part of this area is made up of vast natural reserves in southern Venezuela, equivalent to 470,000 km² of woody areas and wild rainforest, which host the greatest biodiversity in the planet, not only in terms of species richness but also in terms of their unique environments.

The territory of the Hub is exposed to **natural hazards**, mainly to geodynamic hazards (due to seismic movements), and to meteorological and hydrological hazards, the latter caused by the heavy rainfalls typical of the Hub. The Caribbean coastal strip is exposed to tsunamis resulting from the eruption of submarine active volcanoes. Also, generally speaking, the Caribbean coast is usually affected by hazards such as large floods and landslides in urban areas.

The countries involved in the Guianese Shield Hub defined three API projects for the purpose of consolidating connectivity in their territories. They are made up of six individual projects from the COSIPLAN Portfolio, and amount to an investment estimated at US\$ 959 million.

Guyana and Suriname contribute 100% of their economies to the Hub, Venezuela 40%, and Brazil 4%. In absolute terms, Venezuela contributes 69% to the Hub's aggregate GDP, Brazil 29%, Suriname 2%, and Guyana 1%.

The Hub shares some regions of its area of influence with the Amazon (AMA) and Andean (AND) Hubs.

GUIANESE SHIELD

API Projects

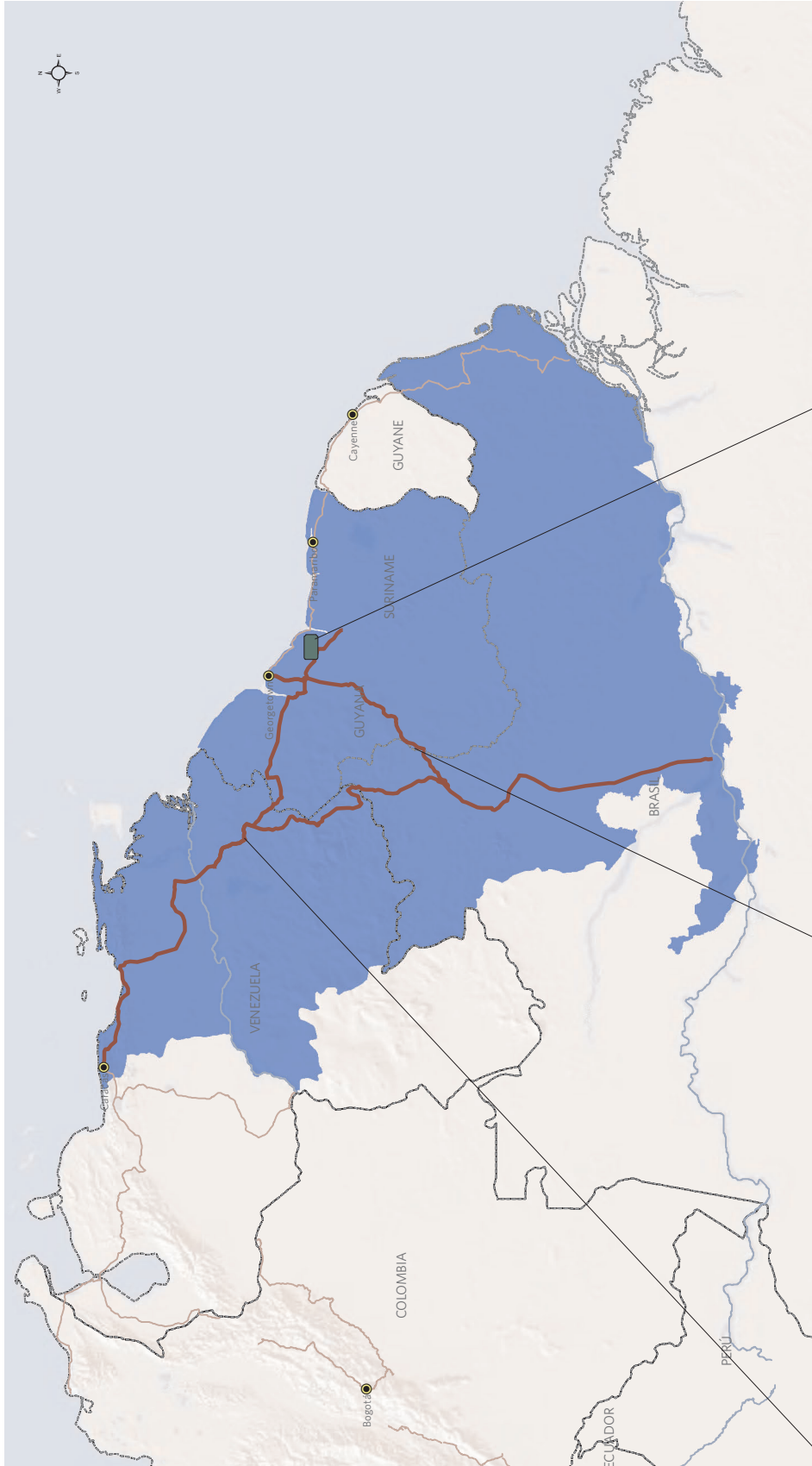
The API projects belonging to this Hub aim at the development of three interconnected large road corridors linking cities and capitals located on the Atlantic coast (Caracas, Georgetown and Paramaribo) between them and to the inland of the continent.

The API project with the greatest estimated investment in this Hub is the Rehabilitation of the Caracas - Manaus Road, involving US\$407 million, i.e. 42% of the investments planned in the Hub. Its purpose is to restore the condition of the only land connection between Venezuela and Brazil along almost a thousand kilometers. Guyana and Suriname will be able to access this corridor after completion of other two ones.

The project concerned with routes interconnecting Venezuela, Guyana and y Suriname involves the construction of a paved road between the cities of Guayana, Georgetown, South Drain, Apura, Zanderij, Moengo, and Albina. This road, together with the already existing ones and the construction of a bridge over the Corentyne river, will make up a road corridor to facilitate integration along the coastal axis.

The Boa Vista - Bonfim - Lethem - Linden - Georgetown Road is the most important north-south connection in Guyana and the only land connection with Brazil. Two sections of this structured project are completed, and a third stretch, consisting in the paving of the Lethem-Linden segment in the territory of Guyana, is at the pre-execution stage. This corridor will reduce by 800 km the distance that goods have to travel by land between Manaus and the Caribbean.

API PROJECTS IN THE GUIANESE SHIELD HUB




REHABILITATION OF THE
CARACAS - MANAUS ROAD




BOA VISTA - BONFIM - LETHEM -
LINDEN - GEORGETOWN ROAD

ROUTES INTERCONNECTING VENEZUELA
(CIUDAD GUAYANA) - GUYANA
(GEORGETOWN) - SURINAME (SOUTH DRAIN -
APURA - ZANDERIJ - MOENGO - ALBINA),
INCLUDING CONSTRUCTION OF THE BRIDGE
OVER THE CORENTYNE RIVER



API PROJECTS IN THE GUIANESE SHIELD HUB *US\$ million**API 14. REHABILITATION OF THE CARACAS - MANAUS ROAD****Estimated Investment:*** 407.0 | **Countries:** BR - VE

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
GUY01	REHABILITATION OF THE CARACAS - MANAUS ROAD	1		407.0	BR - VE	February 2017

API 15. BOA VISTA - BONFIM - LETHEM - LINDEN - GEORGETOWN ROAD**Estimated Investment:*** 250.0 | **Countries:** BR - GU

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
GUY09	LETHEM - LINDEN ROAD	2		250.0	GU	October 2022
GUY42	BOA VISTA - BONFIM ROAD	2		15.0	BR	ND
GUY43	LINDEN - GEORGETOWN ROAD	2		0.0	GU	June 1970

API 16. ROUTES INTERCONNECTING VENEZUELA (CIUDAD GUAYANA) - GUYANA (GEORGETOWN) - SURINAME (SOUTH DRAIN - APURA - ZANDERIJ - MOENGO - ALBINA), INCLUDING CONSTRUCTION OF THE BRIDGE OVER THE CORENTYNE RIVER**Estimated Investment:*** 301.8 | **Countries:** GU - SU - VE

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
GUY18	ROUTES INTERCONNECTING VENEZUELA (CIUDAD GUAYANA) - GUYANA (GEORGETOWN) - SURINAME (APURA - ZANDERIJ - PARAMARIBO)	3		300.8	GU - SU - VE	September 2018
GUY24	CONSTRUCTION OF THE BRIDGE OVER THE CORENTYNE RIVER	3		1.0	GU - SU	ND

 PROFILING
  PRE-EXECUTION
  EXECUTION
  COMPLETED

It is worth noting that all the individual projects fall in the transport sector and road subsector and are publicly financed.

Project Routes Interconnecting Venezuela (Ciudad Guayana) - Guyana (Georgetown) - Suriname (South Drain - Apura - Zanderij - Moengo - Albina) is one of the 20 Portfolio projects with the greatest estimated investment, and is expected to be completed in 2018. This project and the project known as Rehabilitation of the Caracas - Manaus Road involve 73% of the investments estimated to be made in the Hub.

Two of the six individual projects are completed. Of the other four, two are expected to be completed before 2019, and another one in 2022. The project concerned with the bridge over the Corentyne river is at the profiling stage, and there is no information available on its completion date.

TECHNICAL SPECIFICATIONS OF THE HUB'S PROJECTS**ROAD SUBSECTOR**

- Rehabilitation of two road corridors, one of which is 975-km long
- Paving of 646.7 km of roads
- Construction of a bridge

REHABILITATION OF THE CARACAS - MANAUS ROAD

BRAZIL - VENEZUELA

Subsector: Road

Estimated investment: US\$407,000,000

Type of financing: Public

Project stage: Execution

Life cycle stage and number of projects: Execution (1)

Estimated Completion Date:
February 2017

REHABILITATION OF THE CARACAS - MANAUS ROAD PROJECT






GUY API 14

Rationale

This project is significant on account of the importance of the Caracas-Manaus connection, as this is the only link between Venezuela and Brazil along the Brazilian federal longitudinal highway BR-174/AM/RR. The territorial, socioeconomic and commercial development of the region benefited from the construction of this road, which facilitated the movement of goods from/to their origin/destination, and the mobility of people previously living in a quite isolated area. As for transport, there was a reduction in travel times and distances resulting in operating profits.

Thus, the works needed to be carried out in connection with the above-mentioned road are of major importance in the regional context, as they induce sustainable development in this geographical area of the Amazonia and seek to improve the quality of life of people living in its cities, towns and villages and to stimulate their respective production centers.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
GUY01	REHABILITATION OF THE CARACAS - MANAUS ROAD	1		407.0	BR - VE	February 2017



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Structured Project Technical Specifications

- Rehabilitation of a 975-km long road corridor

BOA VISTA - BONFIM - LETHEM - LINDEN - GEORGETOWN ROAD

BRAZIL - GUYANA

Subsector: Road

Estimated investment: US\$250,000,000

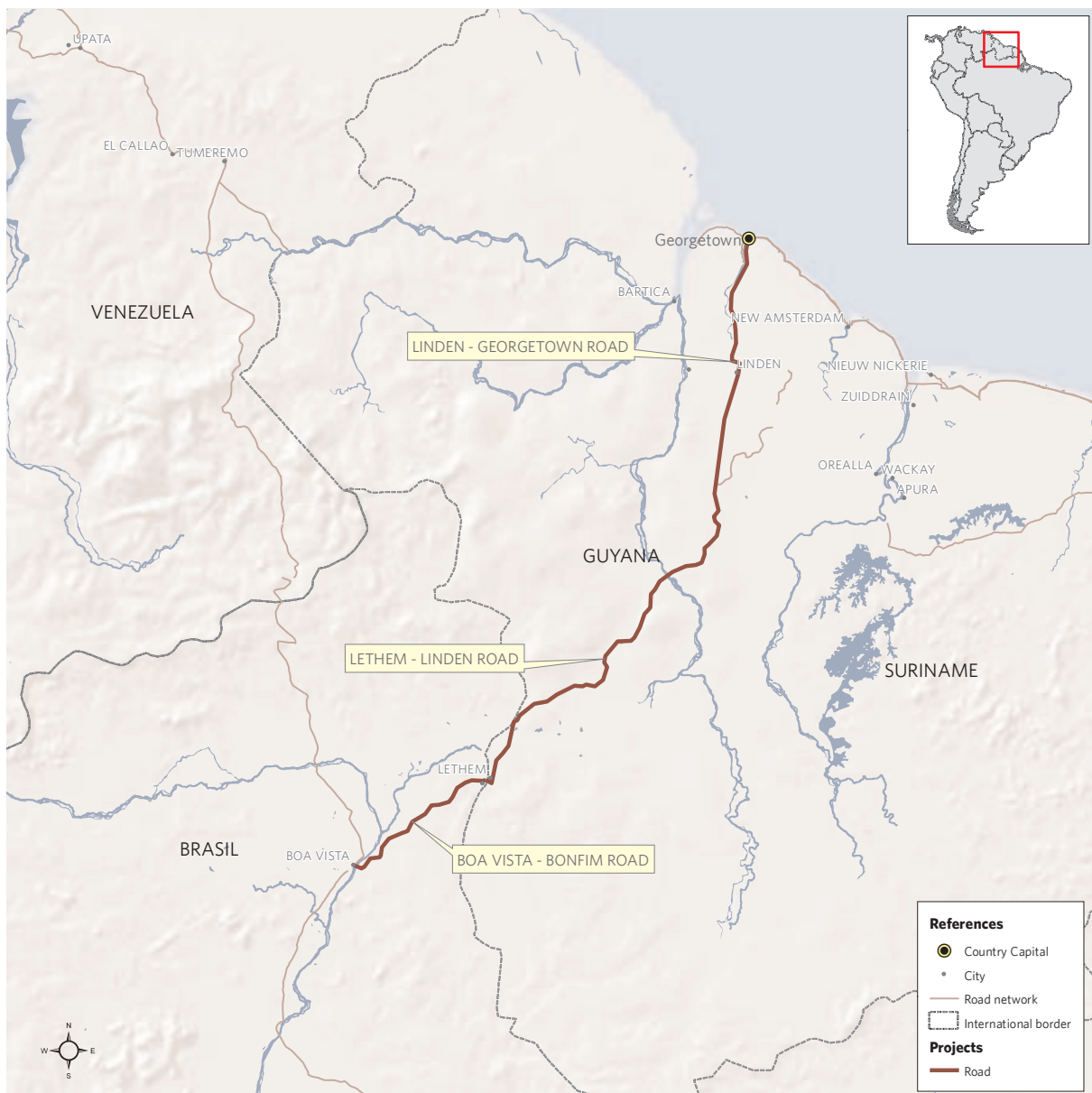
Type of financing: Public

Project stage: Execution

Life cycle stage and number of projects: Pre-execution (1); completed (2)

Estimated Completion Date:
October 2022

BOA VISTA - BONFIM - LETHEM - LINDEN - GEORGETOWN ROAD PROJECT





GUY API 15

Rationale

This project links the city of Boa Vista (Brazil), with the capital of Guyana (Georgetown), and its completion will result in the most important north-south connection in Guyana, thus creating synergies with the initiatives aimed at implementing east-west links among Venezuela, Guyana and Suriname. Paving of the Lethem-Linden section will contribute to the connection of Brazil and Guyana, since this road is the only link between both countries. Works on the Boa Vista-Bonfim (Brazil) and Linden-Georgetown (Guyana) sections as well as the bridge linking Bonfim and Lethem are already completed.

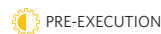
Complementarily, the execution of this project is expected to attract greater trade with the Caribbean, the United States, Europe and Asia, as this road will be the shortest alternative route: the distance between Manaus and the Caribbean will be reduced by some 800 km. Furthermore, complementary actions are required concerning environmental preservation and the development of production and logistics integration. As for the environment, it should be borne in mind that the road runs across environmentally sensitive areas, such as the rainforest and the Rupununi savannah. Regarding production and logistics integration, more detailed studies identifying the opportunities opened up by the paving of the section need to be conducted.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
GUY09	LETHEM - LINDEN ROAD	2		250.0	GU	October 2022
GUY42	BOA VISTA - BONFIM ROAD	2		15.0	BR	ND
GUY43	LINDEN - GEORGETOWN ROAD	2		0.0	GU	June 1970



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Structured Project Technical Specifications

- Paving of 646.7 km of roads

Last Year's Major Developments

Regarding project Lethem - Linden Road (GUY09), it should be pointed out that a new administration was elected in May 2015. The IDB is carrying out a pre-feasibility study that will be completed in December 2016 and will help support the government's future decision.

ROUTES INTERCONNECTING VENEZUELA - GUYANA - SURINAME, INCLUDING CONSTRUCTION OF THE BRIDGE OVER THE CORENTYNE RIVER

GUYANA - SURINAME - VENEZUELA

Subsector: Road

Estimated investment: US\$301,800,000

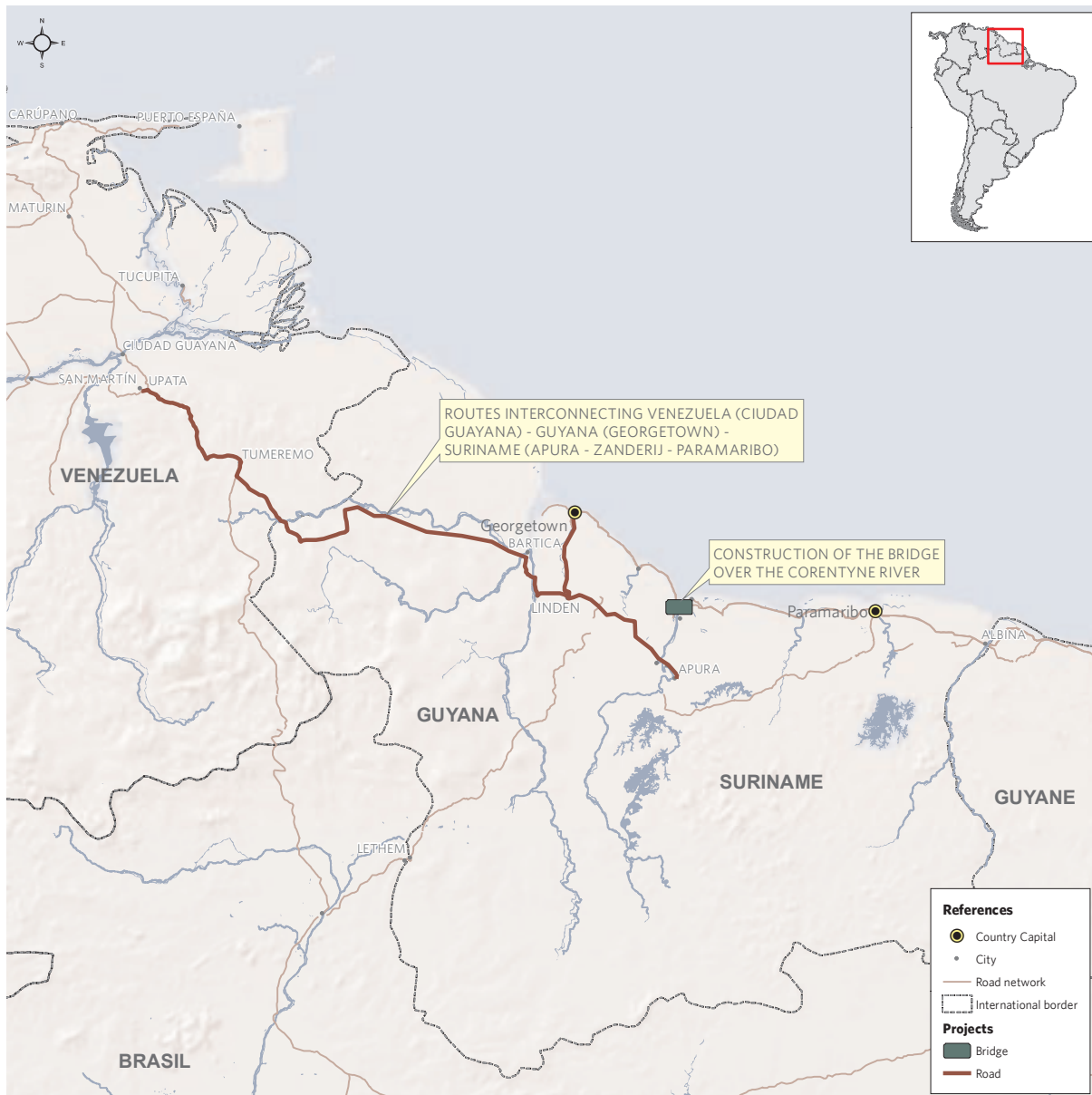
Type of financing: Public-private

Project stage: Profiling

Life cycle stage and number of projects: Profiling (1); pre-execution (1)

Estimated Completion Date:
September 2018

ROUTES INTERCONNECTING VENEZUELA (CIUDAD GUAYANA) - GUYANA (GEORGETOWN) - SURINAME (SOUTH DRAIN - APURA - ZANDERIJ - MOENGO - ALBINA), INCLUDING CONSTRUCTION OF THE BRIDGE OVER THE CORENTYNE RIVER PROJECT





GUY API 16

Rationale

This structured project is made up of two complementary individual projects for the development of a road corridor to facilitate integration along the coastal axis stretching from Ciudad Guayana, in Venezuela, to Paramaribo, in Suriname. The project will help link the markets in the eastern region of Venezuela with those in Guyana and Suriname, which also will be connected with the state of Amapá through French Guiana.

Additionally, such regions will have access to the Venezuelan market through Venezuela's road network and, consequently, to the Andean markets. Furthermore, completion of the project will provide a connection with its area of influence in Brazil (the state of Roraima and the Manaus Free Trade Zone) via the Manaus-Boa Vista-Santa Elena de Uairén-Puerto Ordaz existing road corridor. Therefore, this project will have a highly favorable impact on regional integration and on building synergies for development at the borders.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
GUY18	ROUTES INTERCONNECTING VENEZUELA (CIUDAD GUAYANA) - GUYANA (GEORGETOWN) - SURINAME (APURA - ZANDERIJ - PARAMARIBO)	3		300.8	GU - SU - VE	September 2018
GUY24	CONSTRUCTION OF THE BRIDGE OVER THE CORENTYNE RIVER	3		1.0	GU - SU	ND

PROFILING
 PRE-EXECUTION
 EXECUTION
 COMPLETED

Structured Project Technical Specifications

- Construction of a road corridor
- Construction of a bridge

HPP PARAGUAY-PARANÁ WATERWAY

Integration and Development Hub



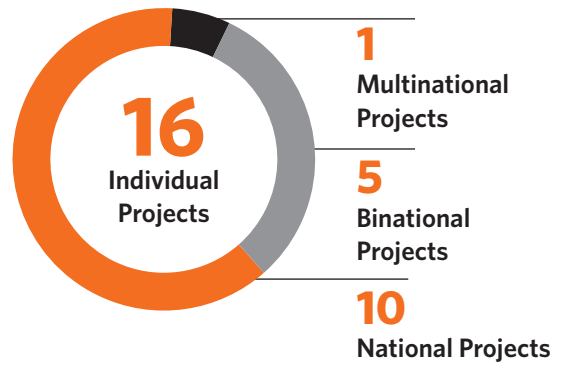
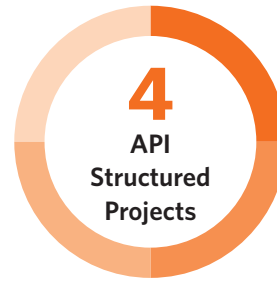
Population 119,035,634
Population density 29.5 people/km²
Area 4,036,541 km²

GDP US\$1,491,033 million
Services 75.5%
Industries 14.1%
Agriculture 6.2%
Mining and quarrying 4.2%

Estimated Investment

US\$ million

1,562.6



Projects by Stage



Projects by Sector



Transport
16
1,562.6

Projects by Type of Financing



Public
16
1,562.6

Projects by Subsector

Transport



Road

1
15.0



Rail

5
377.3



River

10
1,170.3

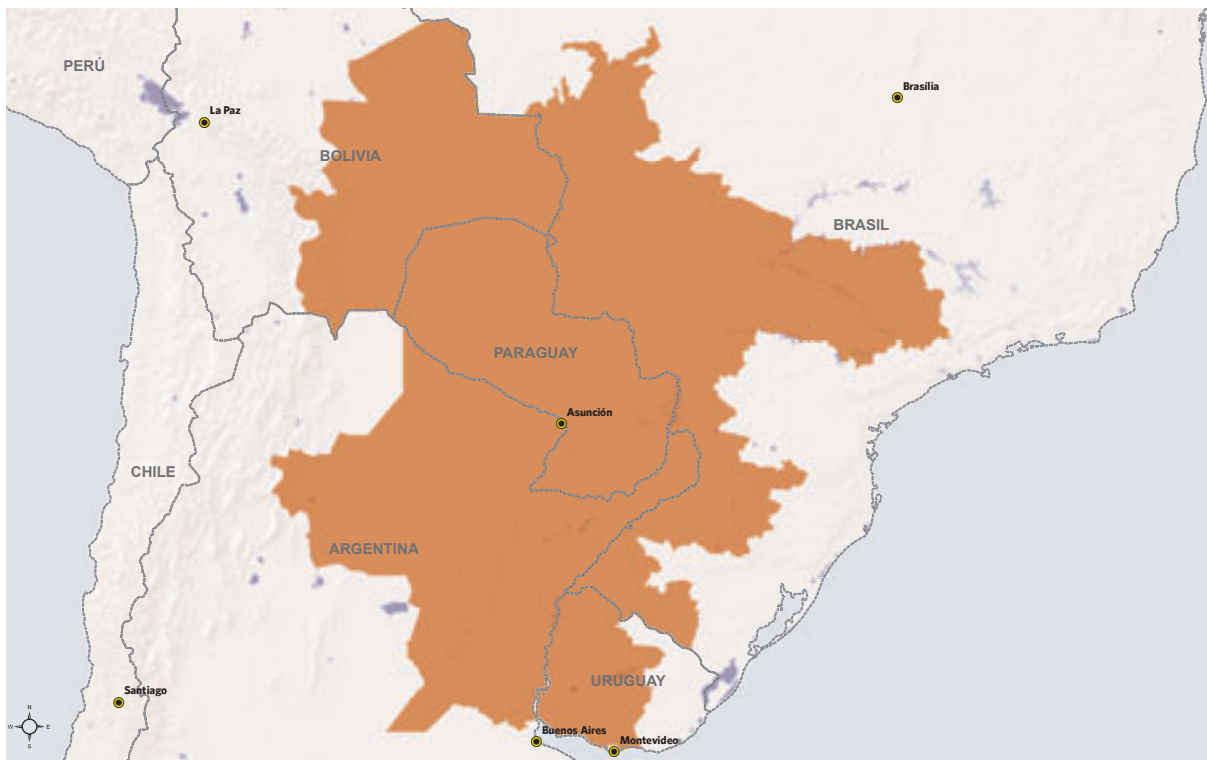
PARAGUAY-PARANÁ WATERWAY

Presentation of the Hub

The Paraguay-Paraná Waterway Hub⁽¹⁾ integrates areas of Brazil, Argentina, Bolivia, Paraguay and Uruguay around the basins of the Paraguay, Paraná, and Uruguay rivers, all of them tributaries of the vast Plata river basin, which flows into the Plata river estuary. The Hub has a low **population density** (29 inhabitants per km²), with the exception of the Paraguayan departments of Asunción and Central.

This is the second largest Hub, as it comprises 20% of the area of South America (4,036,541 km²), as well as the second Hub in terms of the region's GDP, accounting for 34% (1,491,033 million).⁽²⁾ In addition, this Hub ranks third in population, accounting for 29% (i.e. 119,035,634 inhabitants).

AREA OF INFLUENCE OF THE PARAGUAY-PARANÁ WATERWAY HUB



The existing and planned infrastructure of this Hub is determined by the courses of the Paraguay and Paraná rivers, which eventually flow into the Atlantic ocean. Consequently, the network of projects intended to improve navigation conditions or access to the waterway from railways and roads on its sides is located along or in the vicinities of the waterway.

¹ See "Caracterización Socioeconómica y Ambiental del Eje de la Hidrovía Paraguay-Paraná," COSIPLAN-IIRSA, 2014, at <http://www.iirsa.org/hidrovia-paraguay-parana.asp>

² At current 2013 prices.

The **road network** of the countries involved in the Hub totals 2,108,784 km, only about 14% of which is paved. The **rail network** covers 62,359 km, 87% of which, approximately, are in operating condition. The **river and sea port system** of the Hub comprises 40 major ports and many private terminals, mostly located on the Paraná and Paraguay rivers and on the final section of the Uruguay river, which connect with the ocean ports on the Atlantic coast. Seven of these ports handle more than 10 million tons per year, including the Brazilian port of Santos (with almost 100 million tons), followed by the Paranaguá port (with approximately 42 million tons). The major route of **river transportation**, around 3,300 km long, is the Paraguay-Paraná waterway, used for carrying cargo to the deep-water ports on the lower section of the waterway and on the Plata river, where it is transshipped to seagoing vessels. Most of this transportation takes place in convoys of shallow draft barges pushed by towboats that, jointly, can carry up to 52,000 tons per journey. There are also about 65 **major airports**, evenly distributed throughout the whole territory of the Hub. Passenger service is adequate, airport infrastructure is good, and there are numerous connections with inland areas of the countries. The Hub's **installed power capacity** is about 169,311 MW, 70% of which are supplied by Brazil.

The presence of **indigenous communities** is very significant, mainly in Bolivia, the Brazilian state of Mato Grosso, northern Argentina, and eastern Paraguay, while their number is lower in southern Brazil and in Uruguay. In general, they are engaged in activities outside the region's formal economy —subsistence agriculture and animal husbandry— and in complementary activities —craftwork in tourism regions. Furthermore, some of their members are rural waged workers.

Regarding the **protected areas** in the Hub, there are about 460 administrative units with some degree of environmental protection, covering an area of approximately 410,000 km², which accounts for around 8% of the total area of the Hub.

As for **natural hazards**, the Hub is exposed to floods and landslides, worsened by El Niño Southern Oscillation (ENSO), the former covering vast areas and the latter, more limited portions of the territory.

The countries involved in the Paraguay-Paraná Waterway Hub defined four API projects for the purpose of consolidating connectivity in their territories. They are made up of 16 individual projects from the COSIPLAN Portfolio, and amount to an investment estimated at US\$1,562 million.

Paraguay participates with 100% of its economy, while the other countries contribute between 38% and 51% of their GDP. In absolute terms, Brazil accounts for 77% of the Hub's aggregate GDP, followed by Argentina (19%), and Bolivia, Paraguay and Uruguay, which together account for 4%.

Brazil and Argentina account for more than 77% of the trade between the countries involved in the Hub. In particular, Brazil is the main destination of the exports made by the other four countries, receiving more 61% of their foreign trade, especially from Argentina, as more than 80% of its exports within the Hub go to Brazil. The main destination of Brazilian exports within the Hub is Argentina (75%), followed by Paraguay (11%).

The Hub shares some regions of its area of influence with other three Hubs —the Central Interoceanic (IOC), the Capricorn (CAP), and the MERCOSUR-Chile (MCC) Hubs—, to which it is linked by road and rail corridors.

PARAGUAY-PARANÁ WATERWAY

API Projects

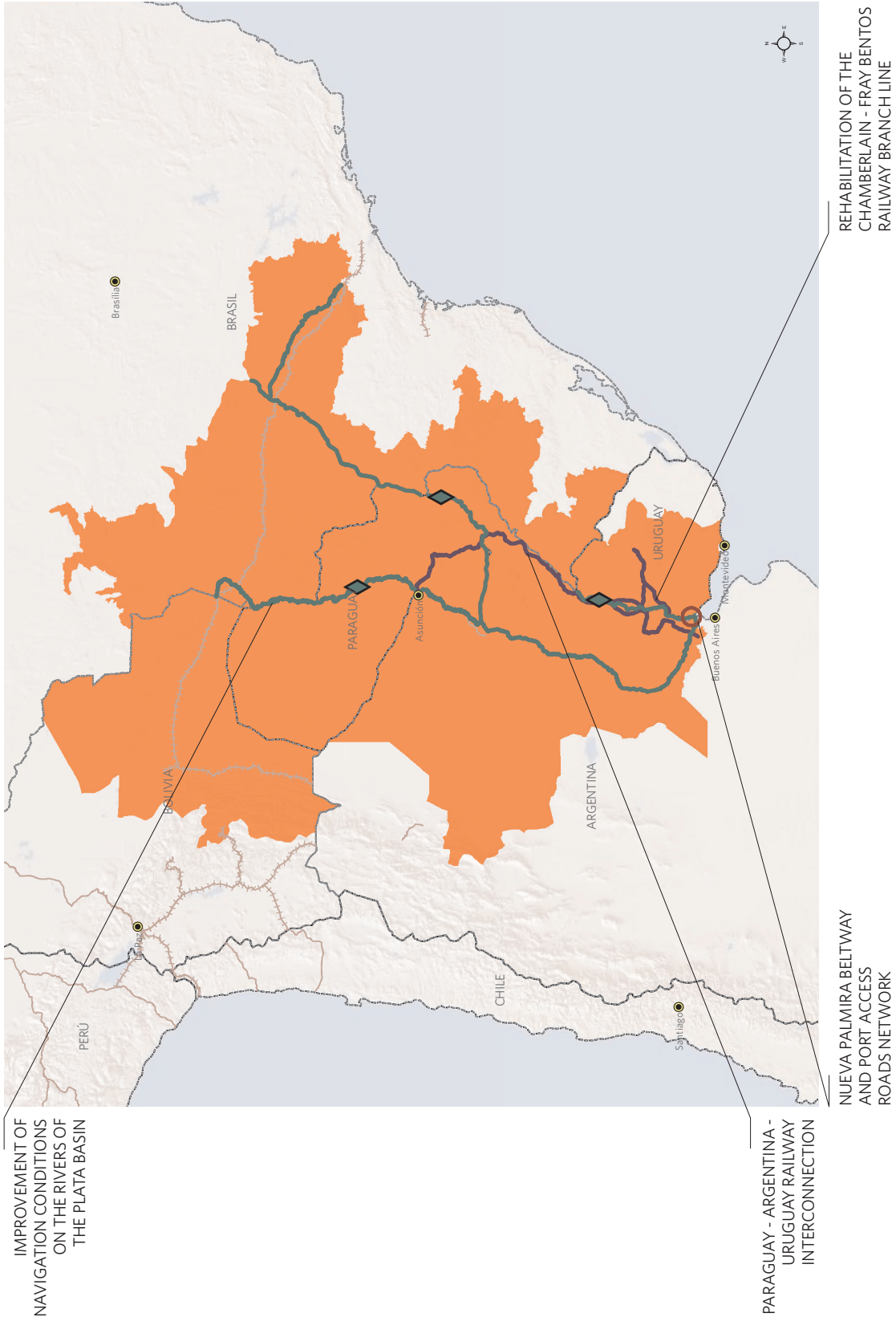
The API projects belonging to this Hub seek to improve the efficiency of the production systems, the quality of life of the population, and the flows of goods and people in the territories of the five countries involved in the Hub in the surroundings of the waterway.

The project with the greatest estimated investment, which involves all the countries in the Hub, is the Improvement of Navigation Conditions on the Rivers of the Plata Basin (US\$1,170 million, i.e. 75% of the investment estimated to be made in all the API projects belonging to this Hub).











This is the only structured project in the Hub falling in the river subsector, and includes more than half of the API individual projects in this Hub (63%). The project is also significant on account of the potential wealth of the Plata basin territory, its size, climatic diversity, mining resources, agricultural potential, and energy generation, industrial, and communication opportunities.

Another two projects fall in the rail subsector, and the other one in the road subsector. One of the rail projects is intended to strengthen connectivity between Paraguay, Argentina and Uruguay, while the other rail project and the one of the road subsector are Uruguay's national individual projects seeking to strengthen the country's connectivity with its neighboring countries.





API PROJECTS IN THE PARAGUAY-PARANÁ WATERWAY HUB




API PROJECTS IN THE PARAGUAY-PARANÁ WATERWAY HUB *US\$ million**API 17. IMPROVEMENT OF NAVIGATION CONDITIONS ON THE RIVERS OF THE PLATA BASIN****Estimated Investment:*** 1,170.3 | **Countries:** AR - BO - BR - PY - UY

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
HPP07	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE PARAGUAY RIVER (BETWEEN APA AND CORUMBÁ)	1		39.0	BO - BR - PY	ND
HPP09	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE PARAGUAY RIVER (ASUNCIÓN - APA)	1		110.0	PY	ND
HPP19	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE TIETÉ RIVER	2		800.0	BR	February 2017
HPP42	BINATIONAL PROJECT FOR THE IMPROVEMENT OF NAVIGATION CONDITIONS ON THE PARAGUAY RIVER, FROM CONFLUENCIA TO ASUNCIÓN	3		45.5	AR - PY	February 2017
HPP44	DEEPENING OF THE FAIRWAY IN THE PARANÁ RIVER FROM CONFLUENCIA TO THE PLATA RIVER	3		110.3	AR	December 2017
HPP72	BINATIONAL PROJECT FOR THE IMPROVEMENT OF NAVIGATION CONDITIONS ON THE ALTO PARANÁ RIVER	4		0.0	AR - PY	ND
HPP88	BINATIONAL PROJECT FOR THE IMPROVEMENT OF NAVIGATION CONDITIONS ON THE URUGUAY RIVER	5		40.0	AR - UY	July 2020
HPP106	SYSTEM FOR WATER LEVEL PREDICTION IN THE PARAGUAY RIVER (APA - ASUNCIÓN)	1		0.0	BO - PY	ND
HPP108	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE ALTO PARANÁ RIVER (UPSTREAM OF SALTOS DEL GUAIRÁ)	2		15.0	BR	September 2016
HPP122	REHABILITATION AND MAINTENANCE OF THE TAMENGO CANAL	1		10.5	BO	June 2018

API 18. PARAGUAY - ARGENTINA - URUGUAY RAILWAY INTERCONNECTION**Estimated Investment:*** 277.3 | **Countries:** AR - PY - UY

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
HPP65	REHABILITATION AND IMPROVEMENT OF THE PIEDRA SOLA - SALTO GRANDE RAILWAY CORRIDOR	5		127.3	UY	December 2019
HPP76	CONSTRUCTION AND REHABILITATION OF THE ARTIGAS - POSADAS RAILWAY	4		150.0	AR - PY	May 2019
HPP82	REHABILITATION OF THE ZÁRATE - POSADAS RAILWAY BRANCH LINE	5		0.0	AR	February 2020
HPP103	CONSTRUCTION AND REHABILITATION OF THE ASUNCIÓN - ARTIGAS RAILWAY	3		0.0	PY	ND

API 19. REHABILITATION OF THE CHAMBERLAIN - FRAY BENTOS RAILWAY BRANCH LINE**Estimated Investment:*** 100.0 | **Countries:** UY

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
HPP120	REHABILITATION OF THE ALGORTA - FRAY BENTOS RAILWAY BRANCH LINE	5		100.0	UY	March 2020



PROFILING



PRE-EXECUTION




EXECUTION



COMPLETED

API 20. NUEVA PALMIRA BELTWAY AND PORT ACCESS ROADS NETWORK

Estimated Investment:* 15.0 | Countries: UY

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
HPP97	NUEVA PALMIRA BELTWAY AND PORT ACCESS ROADS NETWORK	5		15.0	UY	March 2018



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

The three individual projects with the greatest estimated investment account for 69% of the API projects in the Hub, involve four of the five Hub's countries, and are all publicly financed. The first one is a river project (Improvement of Navigation Conditions on the Tietê River), whereas the other two are rail projects (Construction and Rehabilitation of the Artigas - Posadas Railway, and Rehabilitation and Improvement of the Piedra Sola - Salto Grande Railway Corridor).

Half of the 16 individual projects will be completed in the next four years (up to 2019), involving 82% of the investment estimated for the Hub.

Three of the other projects are estimated to be completed in 2020, and there is no information available on the other five projects.

TECHNICAL SPECIFICATIONS OF THE HUB'S PROJECTS



ROAD SUBSECTOR

- Construction of an 8.5-km long ring road
- Building of a bridge
- Construction of a road junction and a roundabout
- Upgrade of urban streets for direct access to a port



RAIL SUBSECTOR

- Reconstruction and rehabilitation of 1,848 km of rail tracks



RIVER SUBSECTOR

- Improvement of navigation conditions on approximately 4,708.3 km of waterways
- Implementation of a water level prediction system

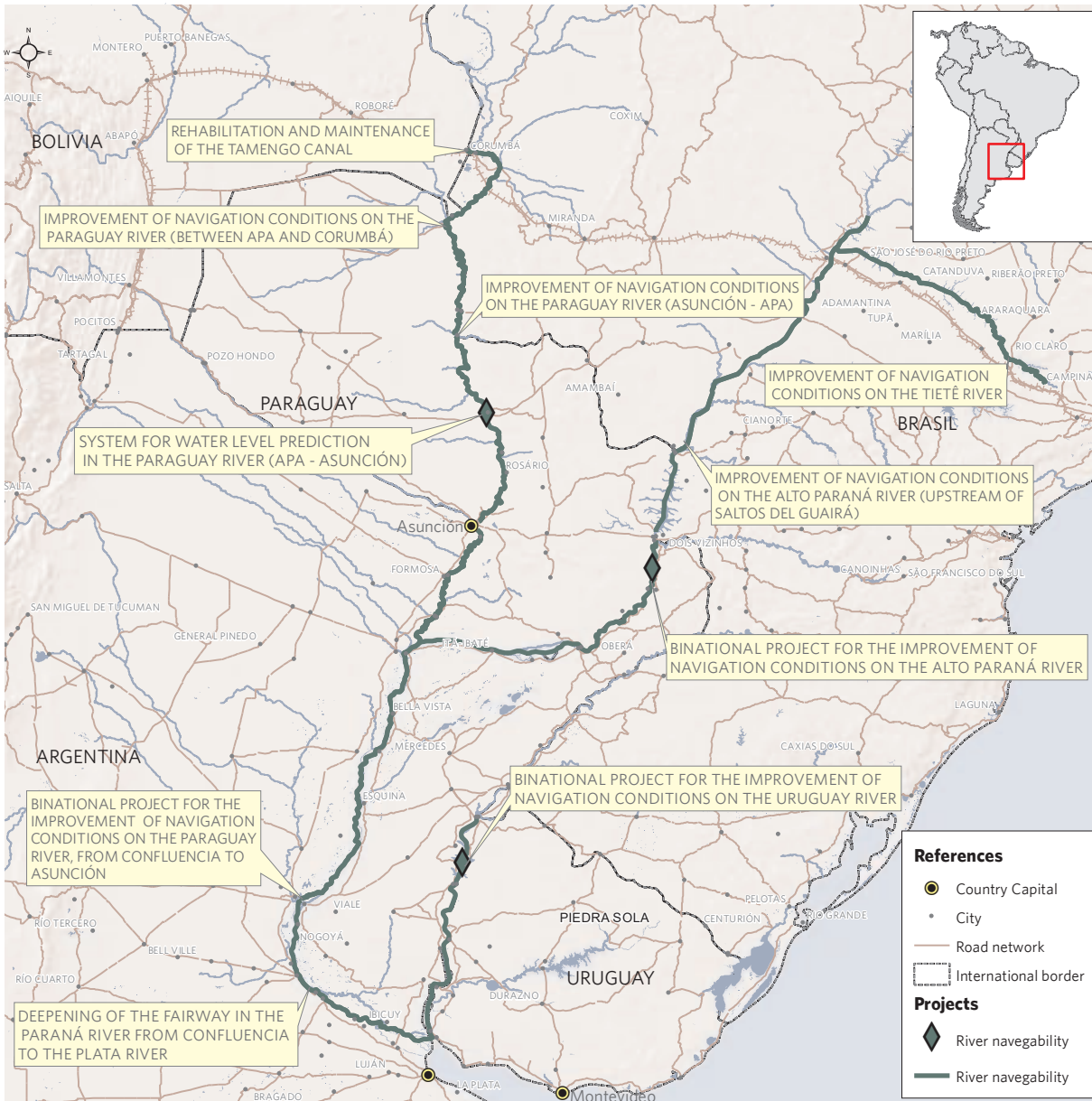
IMPROVEMENT OF NAVIGATION CONDITIONS ON THE RIVERS OF THE PLATA BASIN

ARGENTINA - BOLIVIA - BRAZIL - PARAGUAY - URUGUAY

Estimated Completion Date:
July 2020

Subsector: River
Estimated investment: US\$1,170,248,216
Type of financing: Public
Project stage: Execution
Life cycle stage and number of projects: Profiling (1); pre-execution (4); execution (4)

IMPROVEMENT OF NAVIGATION CONDITIONS ON THE RIVERS OF THE PLATA BASIN PROJECT





Rationale











The Plata Basin covers a total area of nearly 3.1 million km², which is one of the most potentially wealthy regions in the planet on account of its diverse climatic conditions, mining resources, agricultural capability, and energy, industrial and communication possibilities. The improvement of the navigation conditions on the waterways fed by the basin will result in a significant reduction in the cost of transport for both inter- and extra-regional trade, which will contribute to economically integrating the region and strengthening its sustainable development. This will enhance the competitiveness of regional products, mainly of those produced in the areas farthest away from the seaports. As a secondary effect, the project will help reduce the number of trucks on the highways, lowering the number of accidents, limiting exhaust pollution, improving pavement durability, and bringing down road maintenance costs.

In this context, the waterway allows soybean and fuel produced in Brazil to reach Argentina and, similarly, Argentine wheat to reach the Brazilian market. It also enables Paraguayan products to reach São Paulo and the Santos port.

Complementary actions are needed to ensure the preservation of the environment and the tapping of any opportunities for logistics and production development. With regard to the environment, the project affects environmentally sensitive areas such as the wetland known as Pantanal, a large floodplain seasonably covered by the Paraguay river waters and made up of unaltered ecosystems and a rich biodiversity.

IMPROVEMENT OF NAVIGATION CONDITIONS ON THE RIVERS OF THE PLATA BASIN

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
HPP07	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE PARAGUAY RIVER (BETWEEN APA AND CORUMBÁ)	1		39.0	BO - BR - PY	ND
HPP09	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE PARAGUAY RIVER (ASUNCIÓN - APA)	1		110.0	PY	ND
HPP19	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE TIETÉ RIVER	2		800.0	BR	February 2017
HPP42	BINATIONAL PROJECT FOR THE IMPROVEMENT OF NAVIGATION CONDITIONS ON THE PARAGUAY RIVER, FROM CONFLUENCIA TO ASUNCIÓN	3		45.5	AR - PY	February 2017
HPP44	DEEPENING OF THE FAIRWAY IN THE PARANÁ RIVER FROM CONFLUENCIA TO THE PLATA RIVER	3		110.3	AR	December 2017
HPP72	BINATIONAL PROJECT FOR THE IMPROVEMENT OF NAVIGATION CONDITIONS ON THE ALTO PARANÁ RIVER	4		ND	AR - PY	ND
HPP88	BINATIONAL PROJECT FOR THE IMPROVEMENT OF NAVIGATION CONDITIONS ON THE URUGUAY RIVER	5		40.0	AR - UY	July 2020
HPP106	SYSTEM FOR WATER LEVEL PREDICTION IN THE PARAGUAY RIVER (APA - ASUNCIÓN)	1		ND	BO - PY	ND
HPP108	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE ALTO PARANÁ RIVER (UPSTREAM OF SALTOS DEL GUAIRÁ)	2		15.0	BR	September 2016
HPP122	REHABILITATION AND MAINTENANCE OF THE TAMENGO CANAL	1		10.5	BO	June 2018

 PROFILING
  PRE-EXECUTION
  EXECUTION
  COMPLETED

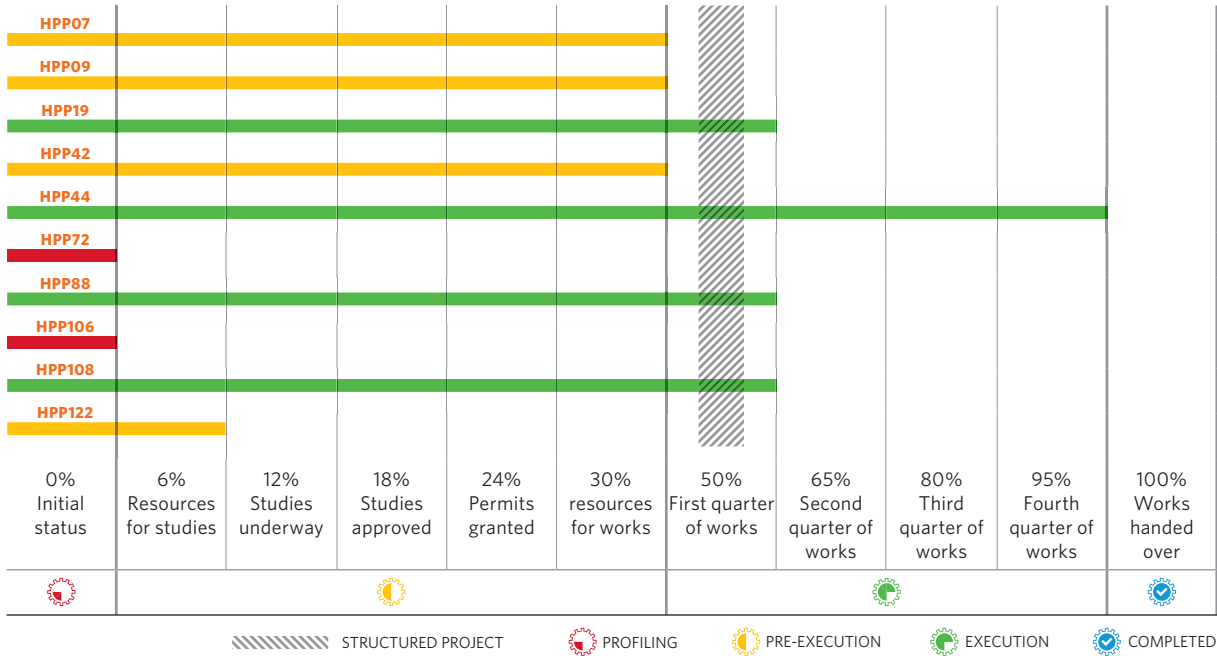
Structured Project Technical Specifications

- Improvement of navigation conditions on approximately 4,708.3 km of waterways
- Implementation of a water level prediction system



HPP API 17

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



PARAGUAY - ARGENTINA - URUGUAY RAILWAY INTERCONNECTION

ARGENTINA - PARAGUAY - URUGUAY

Subsector: Rail

Estimated investment: US\$277,300,000

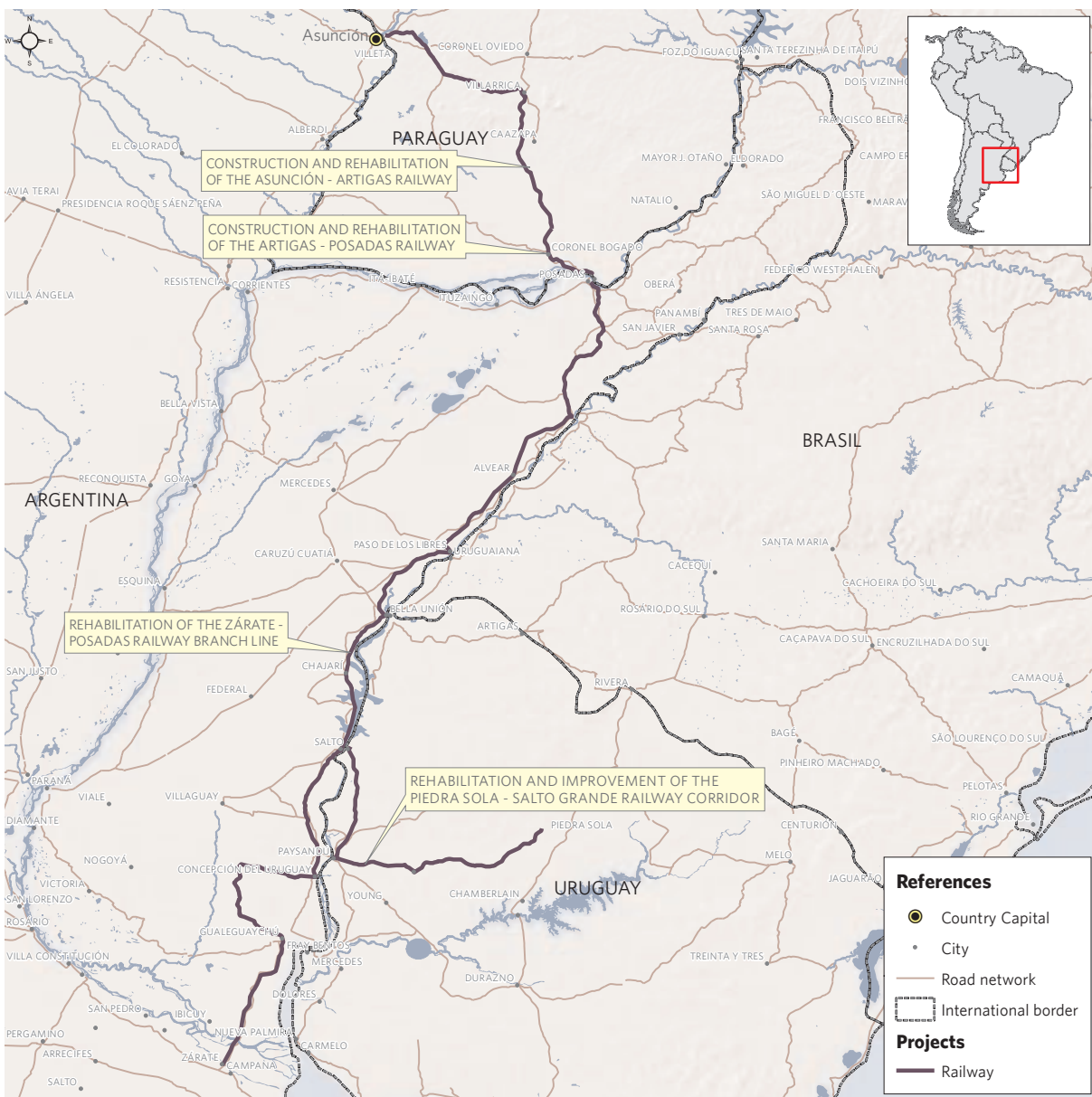
Type of financing: Public

Project stage: Pre-execution

Life cycle stage and number of projects: Profiling (2); pre-execution (1); execution (1)

Estimated Completion Date:
February 2020

PARAGUAY - ARGENTINA - URUGUAY RAILWAY INTERCONNECTION PROJECT





HPP API 18

Rationale

This structured project will have a high impact on the physical integration of Paraguay, Argentina and Uruguay, as it will strengthen the sustainable socioeconomic development in all the area of influence zoned for the rail alignment that connects the three countries. Therefore, the project strengthens networks that are regional in scope and is instrumental in furthering regional connectivity for integration purposes.

This network complements the river network made up of the Paraná and Uruguay rivers as well as the existing road networks, promoting the development of multimodal transportation, which will result in a reduction in the cost of freight transport and will enhance the competitiveness of regional products.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
HPP65	REHABILITATION AND IMPROVEMENT OF THE PIEDRA SOLA - SALTO GRANDE RAILWAY CORRIDOR	5		127.3	UY	December 2019
HPP76	CONSTRUCTION AND REHABILITATION OF THE ARTIGAS - POSADAS RAILWAY	4		150.0	AR - PY	May 2019
HPP82	REHABILITATION OF THE ZÁRATE - POSADAS RAILWAY BRANCH LINE	5		0.0	AR	February 2020
HPP103	CONSTRUCTION AND REHABILITATION OF THE ASUNCIÓN - ARTIGAS RAILWAY	3		0.0	PY	ND

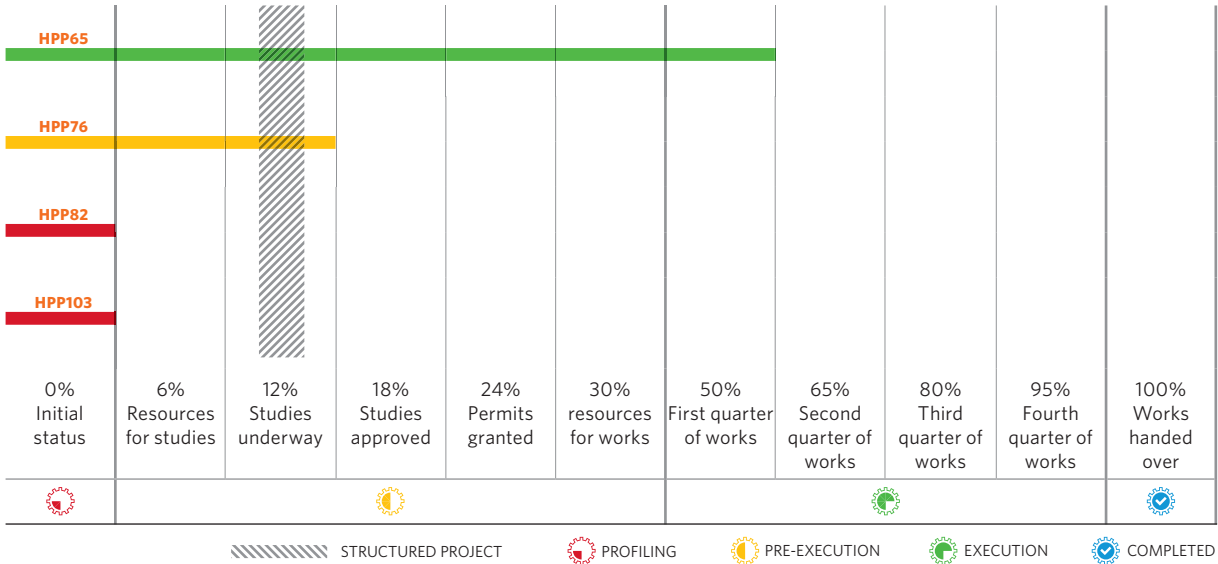
PROFILING
 PRE-EXECUTION
 EXECUTION
 COMPLETED

Structured Project Technical Specifications

- Reconstruction and rehabilitation of 1,707 km of rail tracks

PARAGUAY - ARGENTINA - URUGUAY RAILWAY INTERCONNECTION

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



Last Year's Major Developments

During 2016, project Rehabilitation and Improvement of the Piedra Sola - Salto Grande Railway Corridor (HPP65) made 20% progress, and its stage changed: it is currently at the execution stage, and there are some delays in the tender process. Its estimated completion date is December 2019.

REHABILITATION OF THE CHAMBERLAIN - FRAY BENTOS RAILWAY BRANCH LINE

URUGUAY

Subsector: Rail

Estimated investment: US\$100,000,000

Type of financing: Public

Project stage: Pre-execution

Life cycle stage and number of projects: Execution (1)

Estimated Completion Date:
March 2020

REHABILITATION OF THE CHAMBERLAIN - FRAY BENTOS RAILWAY BRANCH LINE PROJECT




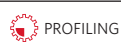


Rationale

This structured project seeks to rehabilitate the Chamberlain-Fray Bentos rail branch line, which connects the Fray Bentos port with the existing road networks and the regional rail networks, some of which reach neighboring countries. This is the case of the following railway lines: Montevideo-Rivera, which forms part of structured project No. 28 (Montevideo - Cacequi Railway Corridor) and Algorta-Paysandú-Salto-Salto Grande, which is included in structured project No. 18 (Paraguay - Argentina - Uruguay Railway Interconnection). The project is expected to promote the development of multimodal transportation, which will result in a reduction in the cost of freight transport and enhance the competitiveness of regional products.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
HPP120	REHABILITATION OF THE ALGORTA - FRAY BENTOS RAILWAY BRANCH LINE	5		100.0	UY	March 2020



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Structured Project Technical Specifications

- Rehabilitation of a 141-km long railway branch line

Last Year's Major Developments

During 2016, project Rehabilitation of the Algorta - Fray Bentos Railway Branch Line made 20% progress and its staged change: it is currently at the execution stage. Its estimated completion date is March 2020.

NUEVA PALMIRA BELTWAY AND PORT ACCESS ROADS NETWORK

URUGUAY

Subsector: Road

Estimated investment: US\$15,000,000

Type of financing: Public

Project stage: Pre-execution

Life cycle stage and number of projects: Pre-execution (1)

Estimated Completion Date:
March 2018

NUEVA PALMIRA BELTWAY AND PORT ACCESS ROADS NETWORK PROJECT





HPP API 20

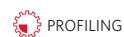
Rationale

Nueva Palmira is strategically located on the banks of the Uruguay river, in front of the Paraná river mouth. It borders the city of Dolores on the north and the city of Carmelo on the south, and is 280 km away of Montevideo. In Nueva Palmira, there are commercial port facilities that receive cargo (mainly grain), from the area of influence of the Paraná-Paraguay waterway, as well as national products.

These port facilities, located in the immediate vicinity of the city of Nueva Palmira, have created negative externalities due to the export increase in the last years. Truck traffic passes through urban streets on its way to the port, causing trouble in the city, such as the disturbance of daily activities and an increasing environmental pollution (noise pollution and the one caused by grain powder). In addition to these problems, the heavier traffic of trucks has resulted in the congestion of the access roads to the port area, making it more difficult for trucks to enter the different port terminals, which brings about negative consequences that range from logistics chain cost increases to problems between haulers and the other players involved. This project is of particular importance as it consolidates this vast production network and promotes regional trade.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
HPP97	NUEVA PALMIRA BELTWAY AND PORT ACCESS ROADS NETWORK	5		15.0	UY	March 2018



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Structured Project Technical Specifications

- Construction of an 8.5-km long ring road
- Building of a bridge
- Construction of a road junction and a roundabout
- Upgrade of urban streets for direct access to the port

IOC CENTRAL INTEROCEANIC

Integration and Development Hub



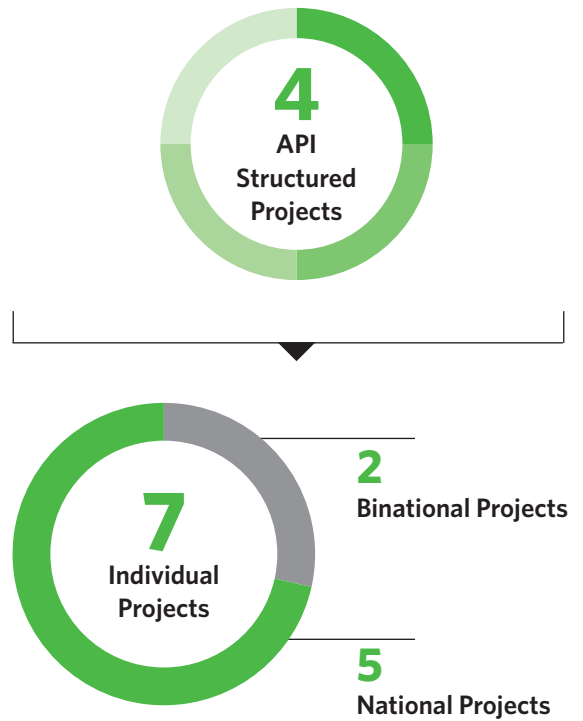
Population 100,150,302
Population density 37.9 people/km²
Area 2,642,262 km²

GDP US\$1,348,366 million
Services 73.3%
Industries 11.5%
Agriculture 5.7%
Mining and quarrying 5.5%

Estimated Investment

US\$ million

442.1



Projects by Stage



Projects by Sector



Transport
7
442.1

Projects by Type of Financing



Public
7
442.1

Projects by Subsector

Transport



Air
1
20.0



Road
3
411.5



Rail
1
6.7



Border crossings
2
3.9

CENTRAL INTEROCEANIC

Presentation of the Hub

The Central Interoceanic Hub⁽¹⁾ extends across South America from coast to coast, linking major ports on the Pacific and the Atlantic oceans as well as several transport hubs connecting Bolivia, Brazil, Chile, Paraguay and Peru.

The Hub accounts for 15% of the area (2,642,262 km²) and 25% of the population (100,150,302 inhabitants) of South America, and is one of the three most densely populated Hubs, with 38 inhabitants per km². It also ranks third in terms of GDP, accounting for 30% of the region's GDP (US\$1,348,366 million).⁽²⁾

AREA OF INFLUENCE OF THE CENTRAL INTEROCEANIC HUB



Regarding infrastructure, the **road network** of the countries that make up the Hub covers a total of 1,854,372 km, 14% of which are paved. Its **rail network** covers 40,146 km. The **sea port system** of the Hub features 29 major ports mostly located on the Atlantic and Pacific oceans and on the Paraguay river. Six of these ports handle more than two million tons. The ports of Santos and Paranaguá, on the Brazilian Atlantic coast, handle 100 and 40 million tons, respectively. Trade through **river transportation** in the region takes place mainly along the Paraguay river and, to a lesser extent, along the Paraná river. The **airport system** is made up of 32 airports —14 international. Concerning **electricity generation**, the installed power capacity in the

¹ See "Caracterización Socioeconómica y Ambiental del Eje Interoceánico Central," COSIPLAN-IIRSA, 2015, at <http://www.iirsa.org/interoceánico-central.asp>

² At 2014 current prices.

countries of the Hub is 159,262 MW, 76% of which are contributed by Brazil.

The presence of **indigenous communities** is very significant. They live in the whole territory of Bolivia, in the south of Peru, in the eastern region of Paraguay and in part of the Brazilian state of Mato Grosso. In general, rural communities are engaged in subsistence activities or small-scale agriculture; some of their members are also rural or mining waged workers.

Regarding the **protected areas** in the Hub, there are about 450 territorial units with some degree of environmental protection, covering an area of approximately 402,837 km², which accounts for around 15% of the total area of the Hub. More than 50% of this area is contributed by Bolivia, with about 220,000 km² that include 17 national parks, three biosphere reserves, and one Ramsar site, among other important areas.

In general terms, all the western territory of the Hub in the Andes ranges is exposed to **natural hazards** resulting mostly from seismic and volcanic geodynamic processes, whereas the eastern area of the Hub is exposed to meteorological and hydrologic hazards as a result of the abundant rainfalls that affect a vast expanse of the central and central-southern areas of the Hub. The Pacific coastline, in turn, is exposed to tsunamis resulting from earthquakes.

The countries involved in the Central Interoceanic Hub defined four API projects for the purpose of consolidating connectivity in their territories. They are made up of seven individual projects from the COSIPLAN Portfolio, and amount to an investment estimated at US\$442 million.

Paraguay contributes 100% of its economy, Bolivia 99%, Brazil 52%, Chile 13%, and Peru 10%. In absolute terms, Brazil contributes 91% of the Hub's aggregate GDP, while the other countries contribute between 3% and 2%.

The Hub shares part of its area of influence with the MERCOSUR-Chile (MCC), Andean (AND), Peru-Brazil-Bolivia (PBB), Amazon (AMA), Paraná-Paraguay Waterway (HPP) and Capricorn (CAP) Hubs.

CENTRAL INTEROCEANIC

API Projects

The API projects belonging to this Hub seek to improve road, rail and air connection between Bolivia, Brazil, Paraguay and Peru, all of them revolving around Bolivia.

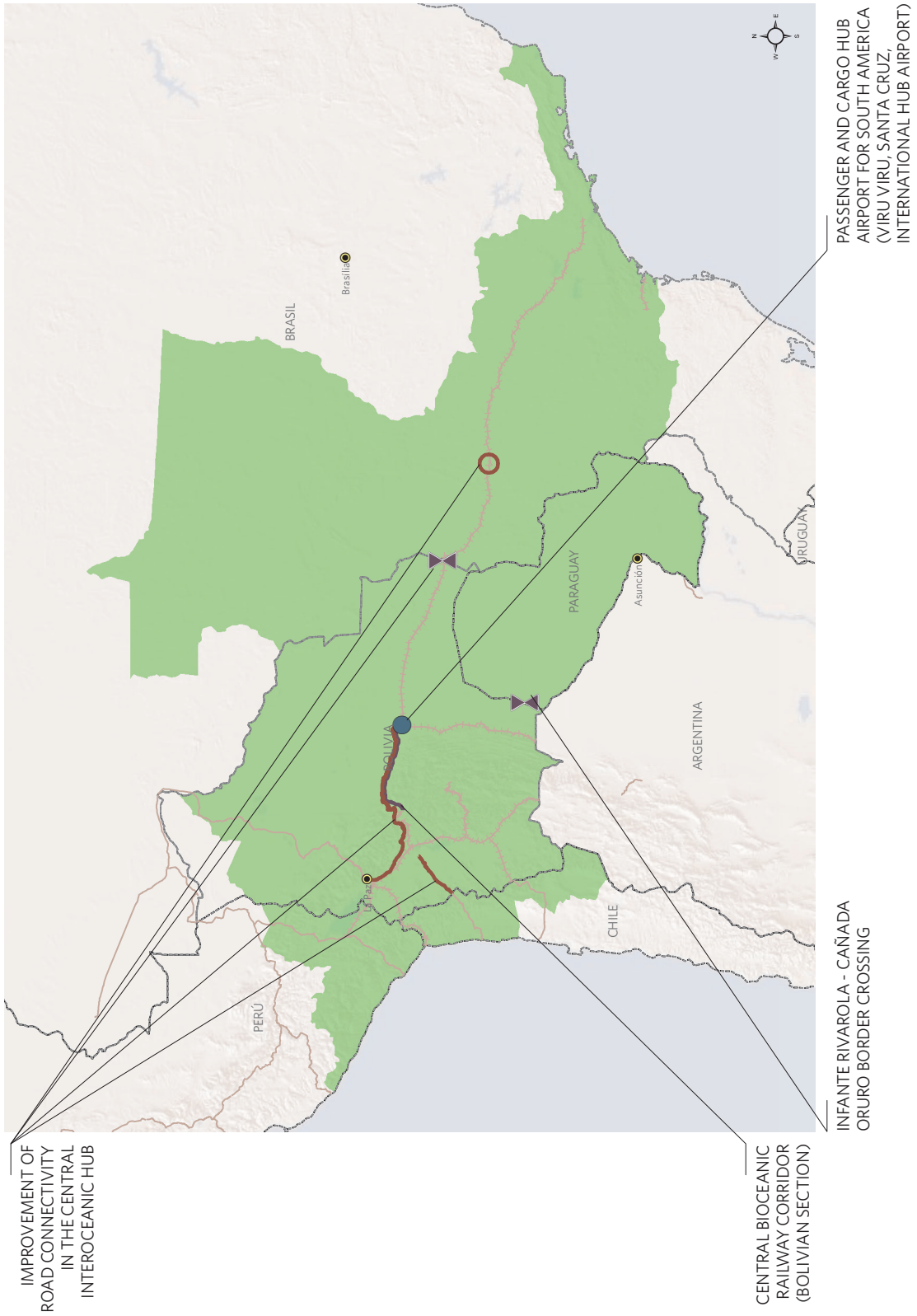
The Central Interoceanic Hub is the second one with less estimated investment for the Integration Priority Projects Agenda after the Peru-Brazil-Bolivia Hub, and is the third Hub with the lowest number of API projects after the Peru-Brazil-Bolivia and the Guianese Shield Hubs.

The project with the greatest estimated investment is Improvement of Road Connectivity in the Central Interoceanic Hub, which includes four individual projects for a total of US\$414 million, and is estimated to be completed in the second half of 2016. This project is quite advanced at the execution stage, with an average progress of 74%. Three works are underway, while the works involved in one individual project are already completed. Its purpose is to improve land connections between Bolivia and Brazil through roads and border crossings intended to facilitate trade.


The other three projects also fall in the transport sector, but focus on a border hub, a hub airport and a rail corridor. The airport and the rail corridor are Bolivia's national projects, while the purpose of the border crossing is to enhance connectivity by land between Bolivia and Paraguay.

It is worth noting that Bolivia participates in six of the seven projects, most of them national in scope (four). The Central Bioceanic Railway Corridor (Bolivian Section) is an ambitious project that will link the eastern and western rail networks, which at present have no connection. The purpose is to foster the sustainable development, exploitation and industrialization of natural resources, enabling export and import operations in a better condition than today as well as a logistics chain with this corridor as its main axis.





API PROJECTS IN THE CENTRAL INTEROCEANIC HUB




API PROJECTS IN THE CENTRAL INTEROCEANIC HUB *US\$ million**API 21. PASSENGER AND CARGO HUB AIRPORT FOR SOUTH AMERICA (VIRU VIRU, SANTA CRUZ, INTERNATIONAL HUB AIRPORT)****Estimated Investment:*** 20.0 | **Countries:** BO

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
IOC78	PASSENGER AND CARGO HUB AIRPORT FOR SOUTH AMERICA (VIRU VIRU, SANTA CRUZ, INTERNATIONAL HUB AIRPORT)	3		20.0	BO	December 2017


API 22. IMPROVEMENT OF ROAD CONNECTIVITY IN THE CENTRAL INTEROCEANIC HUB**Estimated Investment:*** 413.5 | **Countries:** BO - BR

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
IOC14	CAMPO GRANDE BYPASS	2		12.0	BR	December 2016
IOC25	PUERTO SUÁREZ - CORUMBÁ INTEGRATED CONTROL AREA	3		2.0	BO - BR	June 2015
IOC32	TOLEDO - PISIGA ROAD	5		130.5	BO	February 2017
IOC80	UPGRADE OF LA PAZ - SANTA CRUZ ROUTE TO A FOUR-LANE ROAD	5		269.0	BO	August 2016

API 23. INFANTE RIVAROLA - CAÑADA ORURO BORDER CROSSING**Estimated Investment:*** 1.9 | **Countries:** BO - PY

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
IOC09	INFANTE RIVAROLA - CAÑADA ORURO BORDER CROSSING	1		1,9	BO - PY	August 2016

API 24. CENTRAL BIOCEANIC RAILWAY CORRIDOR (BOLIVIAN SECTION)**Estimated Investment:*** 6.7 | **Countries:** BO

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
IOC81	CENTRAL BIOCEANIC RAILWAY CORRIDOR	5		6.7	BO	July 2024

 PROFILING
  PRE-EXECUTION
  EXECUTION
  COMPLETED

Regarding the investment estimated to be made in the individual projects, two of these, belonging to structured project Improvement of Road Connectivity in the Central Interoceanic Hub, account for 89% of all the investments in the Hub. They are Upgrade of La Paz - Santa Cruz Route to a Four-lane Road, involving US\$269 million, and Toledo - Pisiga Road, involving US\$130.5 million. Both are Bolivia's national projects at the execution stage.

According to the estimations available, all the projects —with the exception of the Bioceanic Railway Corridor, which is scheduled to be completed in 2024— will be completed in the next three years (up to 2018).

TECHNICAL SPECIFICATIONS OF THE HUB'S PROJECTS**AIR SUBSECTOR**

- Expansion of a freight and passenger airport

**ROAD SUBSECTOR**

- Construction of a 46.1 km ring road
- Paving of 232 km of roads
- Upgrade to four lanes along 789 km of roads

**BORDER CROSSINGS SUBSECTOR**

- Improvement of two border crossings, one of which is a border center for integrated control operations in a single customs office and its complementary works involving 1,031 m²

**RAIL SUBSECTOR**

- Rehabilitation and construction of 1,700 km of rails

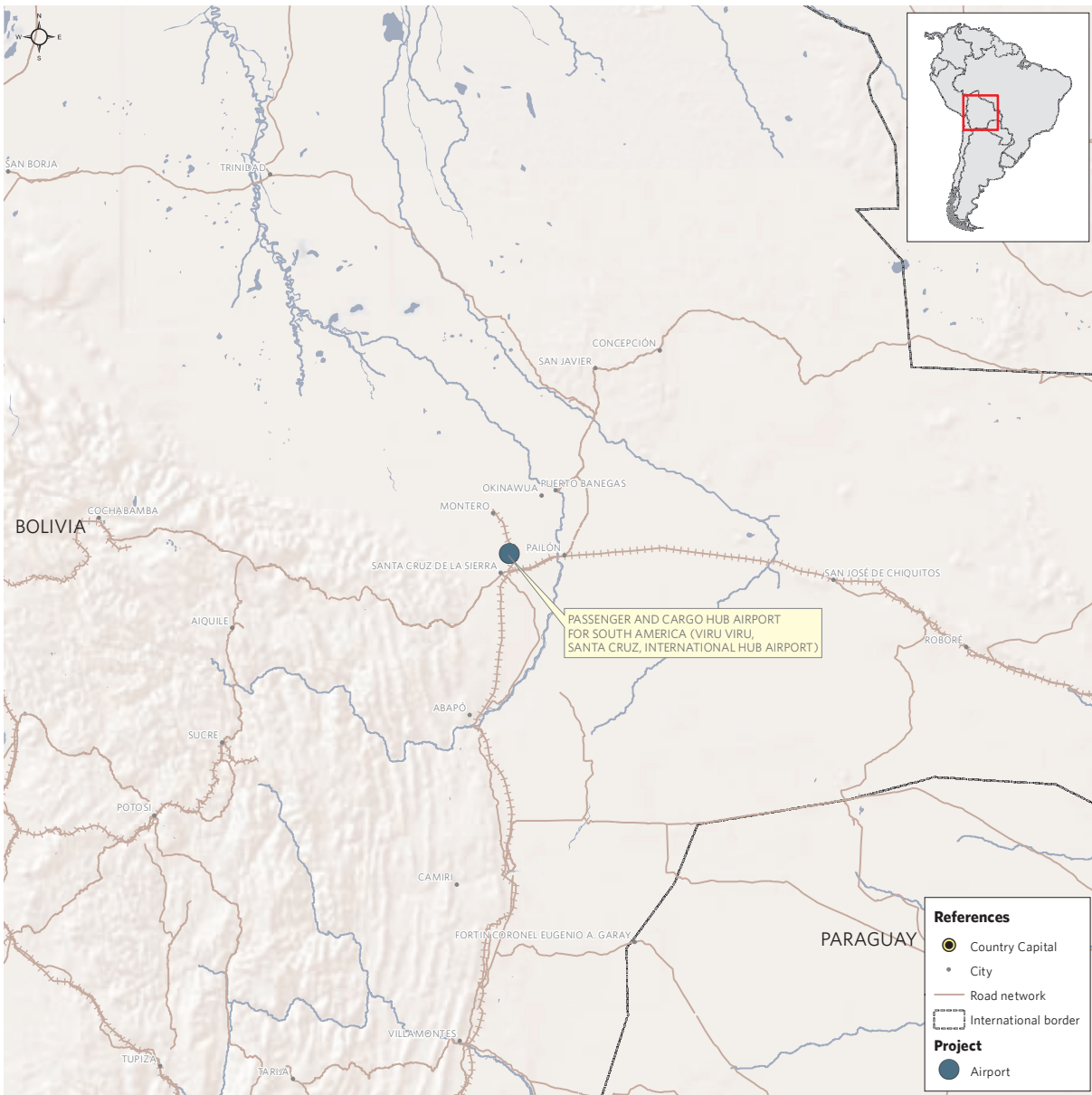
PASSENGER AND CARGO HUB AIRPORT FOR SOUTH AMERICA (VIRU VIRU, SANTA CRUZ, INTERNATIONAL HUB AIRPORT)

BOLIVIA

Subsector: Air
Estimated investment: US\$20,000,000
Type of financing: Public
Project stage: Profiling
Life cycle stage and number of projects: Profiling (1)

Estimated Completion Date:
December 2017

PASSENGER AND CARGO HUB AIRPORT FOR SOUTH AMERICA (VIRU VIRU, SANTA CRUZ, INTERNATIONAL HUB AIRPORT) PROJECT






IOC API 21

Rationale

The purpose of this structured project is to establish a regional passenger and cargo hub airport for domestic and international flights, ensuring adequate, efficient and safe handling of cargo. It seeks to serve as an important lever for both local and regional economic development so as to encourage exports of agribusiness products from its area of influence and boost imports of inputs.

One of the hubs will be the Viru Viru Airport, located in the Bolivian city of Santa Cruz de la Sierra. As it is at the geographic midpoint of South America, the airport is expected to become an air cargo and passenger hub for the interconnection of the entire Central Inter-oceanic Hub. Thanks to its near sea level location, airplanes will be able to operate at full payload.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
IOC78	PASSENGER AND CARGO HUB AIRPORT FOR SOUTH AMERICA (VIRU VIRU, SANTA CRUZ, INTERNATIONAL HUB AIRPORT)	3		20.0	BO	December 2017



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Structured Project Technical Specifications

- Expansion of a freight and passenger airport

IMPROVEMENT OF ROAD CONNECTIVITY IN THE CENTRAL INTEROCEANIC HUB

BOLIVIA - BRAZIL

Subsector: Road, border crossings

Estimated investment: US\$413,500,000

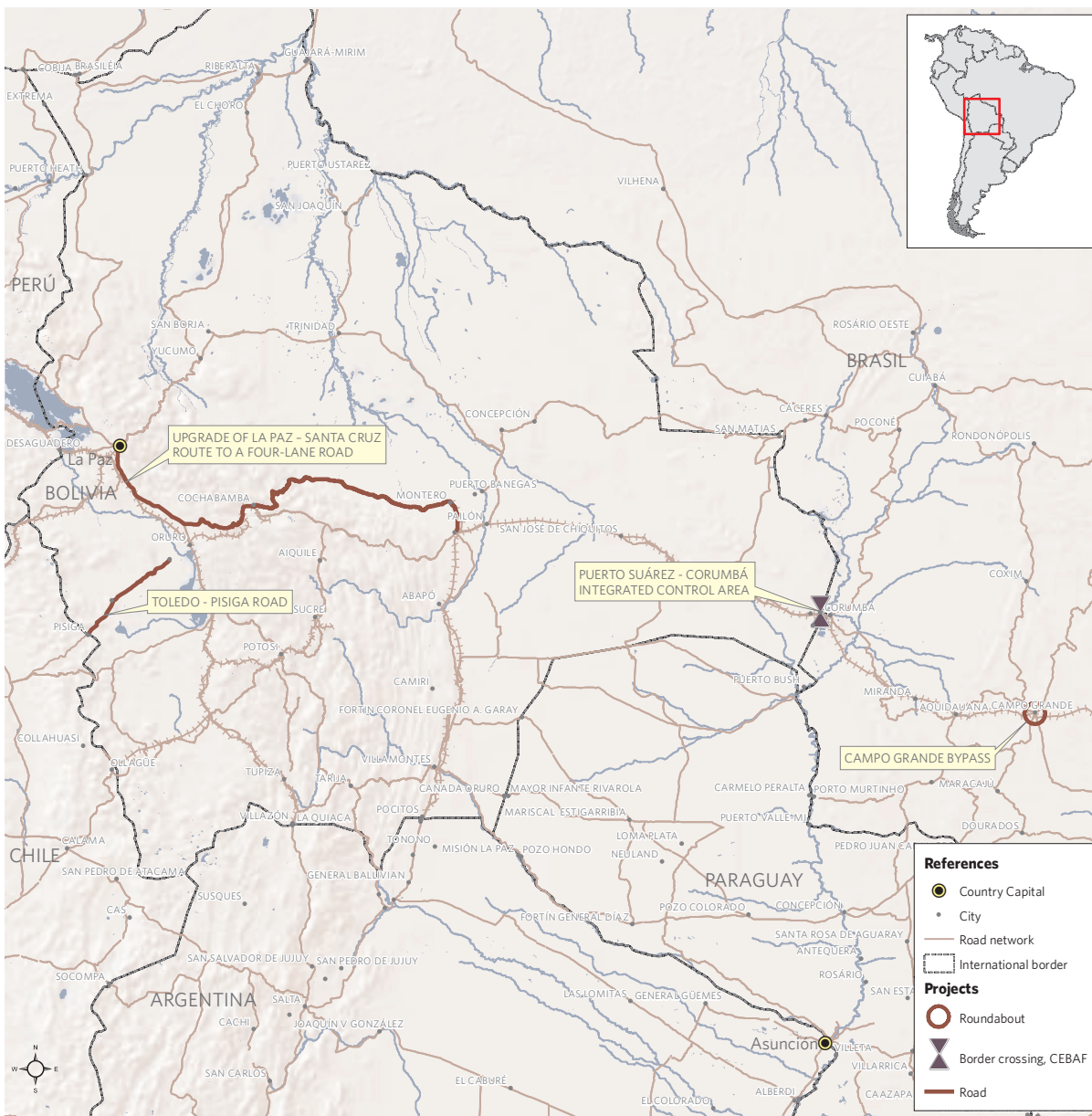
Type of financing: Public

Project stage: Execution

Life cycle stage and number of projects: Execution (3); completed (1)

Estimated Completion Date:
February 2017

IMPROVEMENT OF ROAD CONNECTIVITY IN THE CENTRAL INTEROCEANIC HUB PROJECT





IOC API 22

Rationale

The purpose of this project is to link the western region of Bolivia with Peru and Chile on the west and with Brazil on the east, through the states of Mato Grosso do Sul and São Paulo to the port of Santos. Furthermore, it enables the integration of Bolivia with Paraguay, Argentina and Uruguay through the Tamengo canal and the Paraguay-Paraná waterway

The simultaneous implementation of the individual projects is highly important, as enhanced road connectivity in the Central Interoceanic Hub will impact on 98% of the trade between Brazil and Bolivia.

INDIVIDUAL PROJECTS *US\$ million

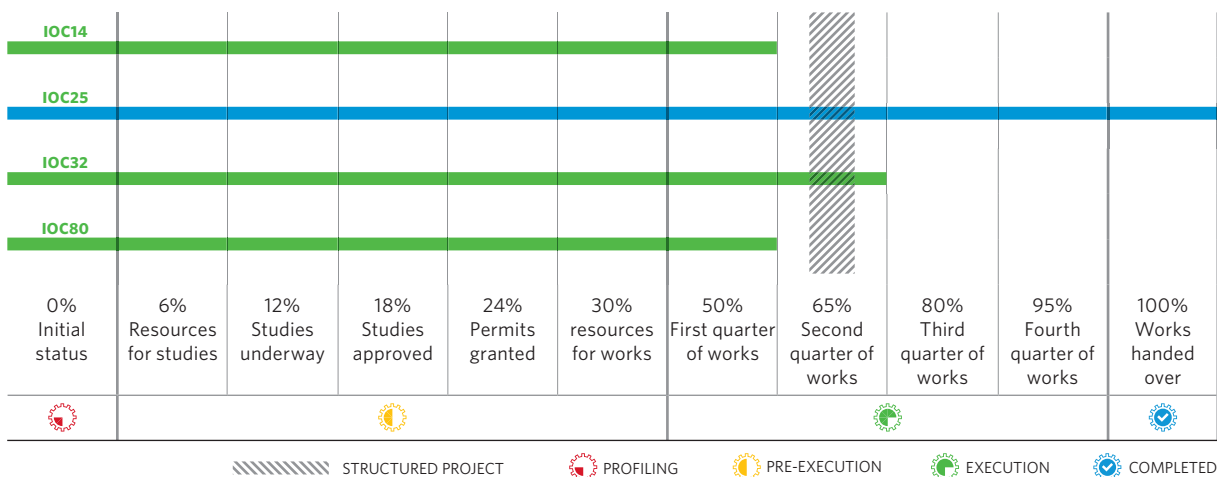
Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
IOC14	CAMPO GRANDE BYPASS	2		12.0	BR	December 2016
IOC25	PUERTO SUÁREZ - CORUMBÁ INTEGRATED CONTROL AREA	3		2.0	BO - BR	June 2015
IOC32	TOLEDO - PISIGA ROAD	5		130.5	BO	February 2017
IOC80	UPGRADE OF LA PAZ - SANTA CRUZ ROUTE TO A FOUR-LANE ROAD	5		269.0	BO	August 2016

PROFILING PRE-EXECUTION EXECUTION COMPLETED

Structured Project Technical Specifications

- Construction of a 46.1-km ring road
- Improvement of a border crossing
- Paving of 232 km of roads
- Upgrade to four lanes along 789 km of roads

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



STRUCTURED PROJECT PROFILING PRE-EXECUTION EXECUTION COMPLETED

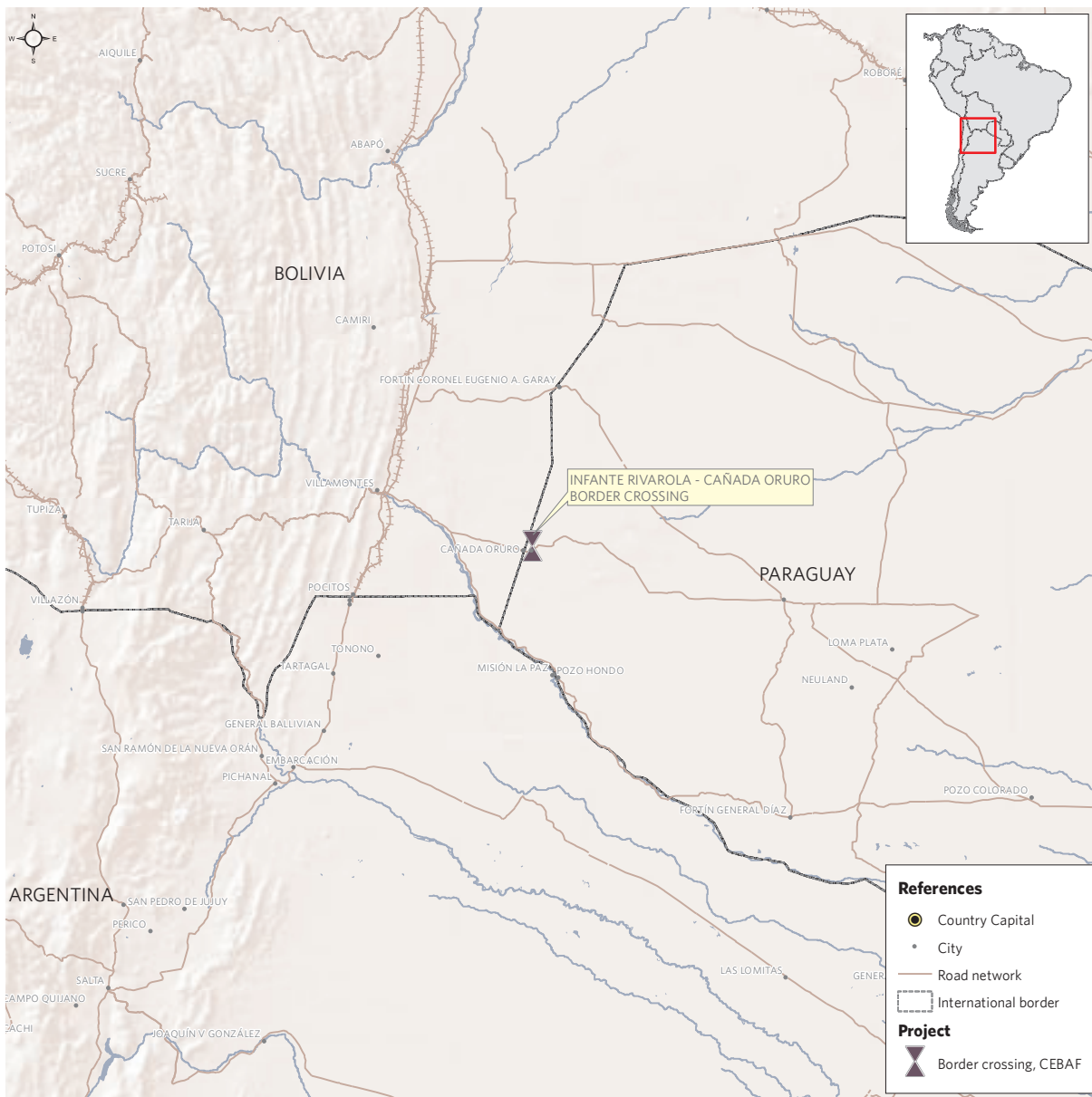
INFANTE RIVAROLA - CAÑADA ORURO BORDER CROSSING

BOLIVIA - PARAGUAY

Subsector: Border crossings
Estimated investment: US\$1,900,000
Type of financing: Public
Project stage: Execution
Life cycle stage and number of projects: Execution (1)

Estimated Completion Date:
August 2016

INFANTE RIVAROLA - CAÑADA ORURO BORDER CROSSING PROJECT





IOC API 23

Rationale

This structured project is located in the geographic midpoint of the Central Interoceanic Hub, in the Bolivia-Paraguay border area, and seeks to build and install the necessary infrastructure and services to allow efficient passenger and freight traffic between both countries. Its implementation is justified by the increase in vehicular traffic and international trade directly resulting from the pavement and improvement of the Villa Montes-Cañada Oruro road.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
IOC09	INFANTE RIVAROLA - CAÑADA ORURO BORDER CROSSING	1		1.9	BO - PY	August 2016



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Structured Project Technical Specifications

- Construction of a border center for integrated control operations in a single customs office and its complementary works involving 1,031 m²

CENTRAL BIOCEANIC RAILWAY CORRIDOR (BOLIVIAN SECTION)

BOLIVIA

Subsector: Rail

Estimated investment: US\$6,700,000

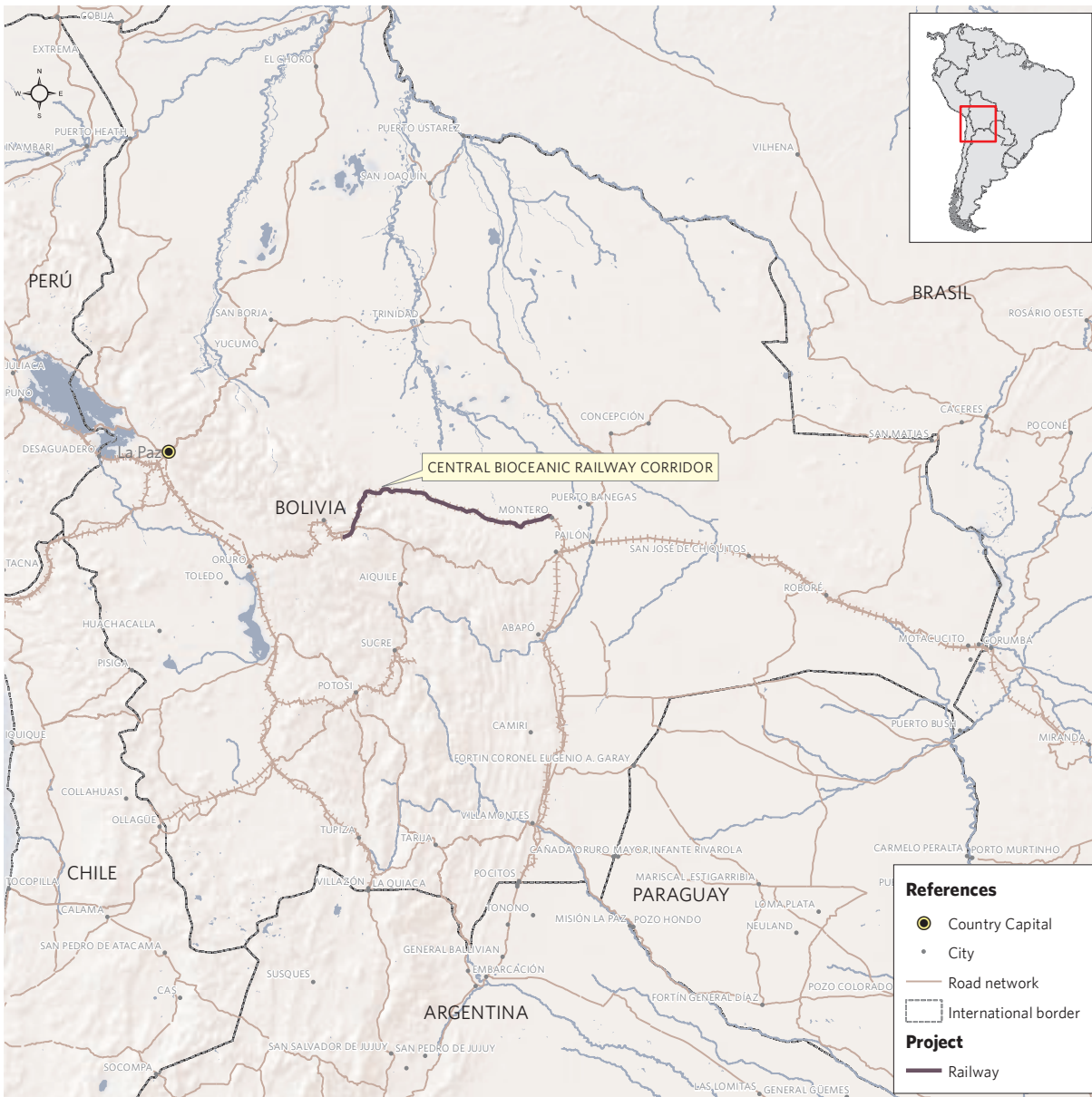
Type of financing: Public

Project stage: Pre-execution

Life cycle stage and number of projects: Pre-execution (1)

Estimated Completion Date:
July 2024

CENTRAL BIOCEANIC RAILWAY CORRIDOR (BOLIVIAN SECTION) PROJECT





IOC API 24

Rationale

This structured project will ensure an interconnection for Brazil, Chile, Peru and Bolivia in the central area of South America, facilitating trade among such countries as well as exports to overseas markets. The Central Bioceanic Railway Corridor, spanning 4,000 km from the port of Santos, in Brazil, to the port of Arica, in Chile, will link rail networks.

The section in Bolivia is of critical importance, since at present the two rail networks in the country, the Andean and the Eastern ones, are not interconnected. This approximately 500-km long missing link in Bolivian territory, which equals 6% of the total length of the Central Bioceanic Railway Corridor, is an obstacle to uninterrupted traffic along the entire corridor; moreover, the road sections are not able to efficiently handle the forecasted freight volumes. Goods traffic forecasts provide sufficient reasons to define a project for the upgrade and harmonization of the carrying capacity throughout the Bolivian territory.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
IOC81	CENTRAL BIOCEANIC RAILWAY CORRIDOR	5		6.7	BO	July 2024



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Structured Project Technical Specifications

- Rehabilitation and construction of 1,700 km of rails

MCC MERCOSUR-CHILE

Integration and Development Hub



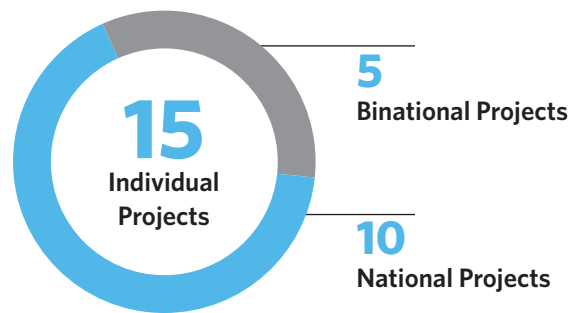
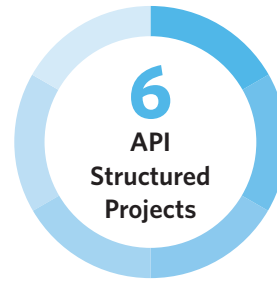
Population 141,453,273
Population density 44.0 people/km²
Area 3,216,623 km²

GDP US\$1,973,411 million
 Services 75.0%
 Industries 14.0%
 Agriculture 6.0%
 Mining and quarrying 5.0%

Estimated Investment

US\$ million

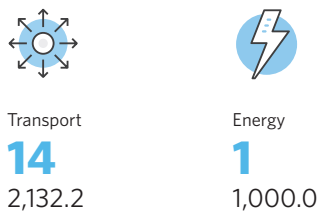
3,132.2



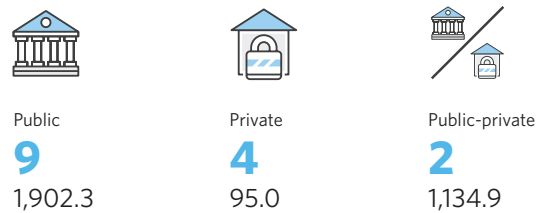
Projects by Stage



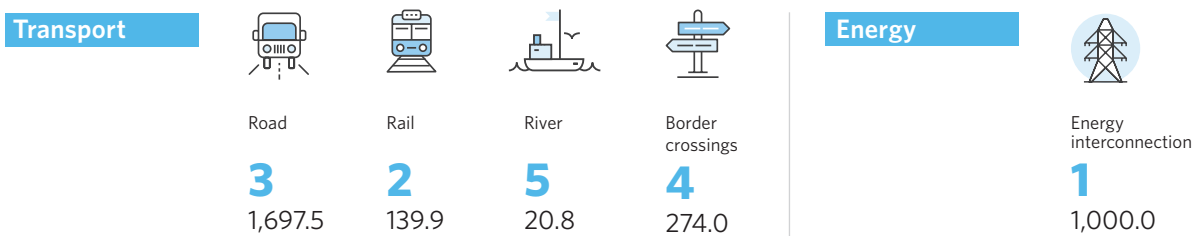
Projects by Sector



Projects by Type of Financing



Projects by Subsector



● Number of Projects

● US\$ million

MERCOSUR-CHILE

Presentation of the Hub

The MERCOSUR-Chile Hub⁽¹⁾ covers an important part of Argentina, Brazil and Paraguay, the whole territory of Uruguay, and the central region of Chile. Its area of influence accounts for 18% of the total area of the South American continent (3,216,623 km²).

This is the most populated Hub, with 35% of the South American population (141,453,273 inhabitants), as well as the one with the greatest percentage of the South American GDP: US\$1,973,411 million.⁽²⁾

AREA OF INFLUENCE OF THE MERCOSUR-CHILE HUB



The MERCOSUR-Chile Hub is home to a **complex and dense infrastructure network** located in the Plata river basin and the Brazilian states included in the Hub. Not taking into account the works planned, the **road network** of the countries involved in the Hub covers a total of 1,973,802 km, only 6% of which are paved. The **rail network** is 61,424 km long, and approximately 87% of it is in operating condition. The **sea and river port system** of the MERCOSUR-Chile Hub is made up of 46 major ports, most of which are located on the coasts of the Atlantic ocean, the Plata river, and the Paraná, Paraguay and Uruguay rivers, to which the Chilean ports on the Pacific coast should be added. **River**

¹ See "Caracterización Socioeconómica y Ambiental del Eje MERCOSUR-Chile," COSIPLAN-IIRSA, 2014, at <http://www.iirsa.org/mercosur-chile.asp>

² At 2012 current prices.

transportation activities in the regions are mainly carried out along the Paraná and Paraguay rivers and, to a lesser extent, along the Uruguay river. There are also consolidated **sea routes** between Brazil and Argentina, used primarily for the trade of vehicles and parts. Concerning **electricity generation**, as of 2012 the countries involved in the Hub had a joint installed power of about 190,131 MW.

The presence of **indigenous communities** is low, as they represent only 1% of the total population of the countries involved. Regarding the **protected areas** in the Hub, there are about 600 territorial units with some degree of environmental protection, covering approximately 193,000 km², i.e. some 6% of the Hub's territory.

The countries involved in the MERCOSUR-Chile Hub defined six API projects for the purpose of consolidating connectivity in their territories. They are made up of 15 individual projects from the COSIPLAN Portfolio, and amount to an investment estimated at US\$3,132 million.

The MERCOSUR-Chile Hub involves 100% of Uruguay's economy, 97% of Paraguay's economy, more than 86% of Argentina's economy, and approximately 60% of Chile's and Brazil's economies. In absolute terms, the aggregate gross product of the Hub is made up of 67% of Brazil's GDP, 21% of Argentina's GDP, 9% of Chile's GDP, and 3% Uruguay's and Paraguay's GDP as a whole.

The Hub shares some regions of its area of influence with the Paraguay-Paraná Waterway (HPP), Southern (DES), and Capricorn (CAP) Hubs.

MERCOSUR-CHILE

API Projects

The API projects belonging to this Hub are intended to help consolidate integration infrastructure and to enhance the flow of goods, services and people from the five countries involved (Argentina, Bolivia, Brazil, Chile and Uruguay). The purpose is to strengthen the production chains and competitiveness of the territory at both the regional and global levels, and to promote the development of ecotourism and the diversification of the energy matrix.

This is the fourth Hub in terms of both number of API projects and it also ranks fourth in planned investment vis-à-vis the total Integration Priority Projects Agenda.

The API project with the highest estimated investment in the Hub is Agua Negra Binational Tunnel, which is the only tunnel included in API. This is an important engineering undertaking (two parallel tunnels, one for each direction of traffic, with a length of 14 km and located at 4,058 m.a.s.l.), which will not only strengthen trade (and tourism) flows between Argentina and Chile, but also facilitate access of an important region of Argentina, Brazil and Uruguay to Asia-Pacific.

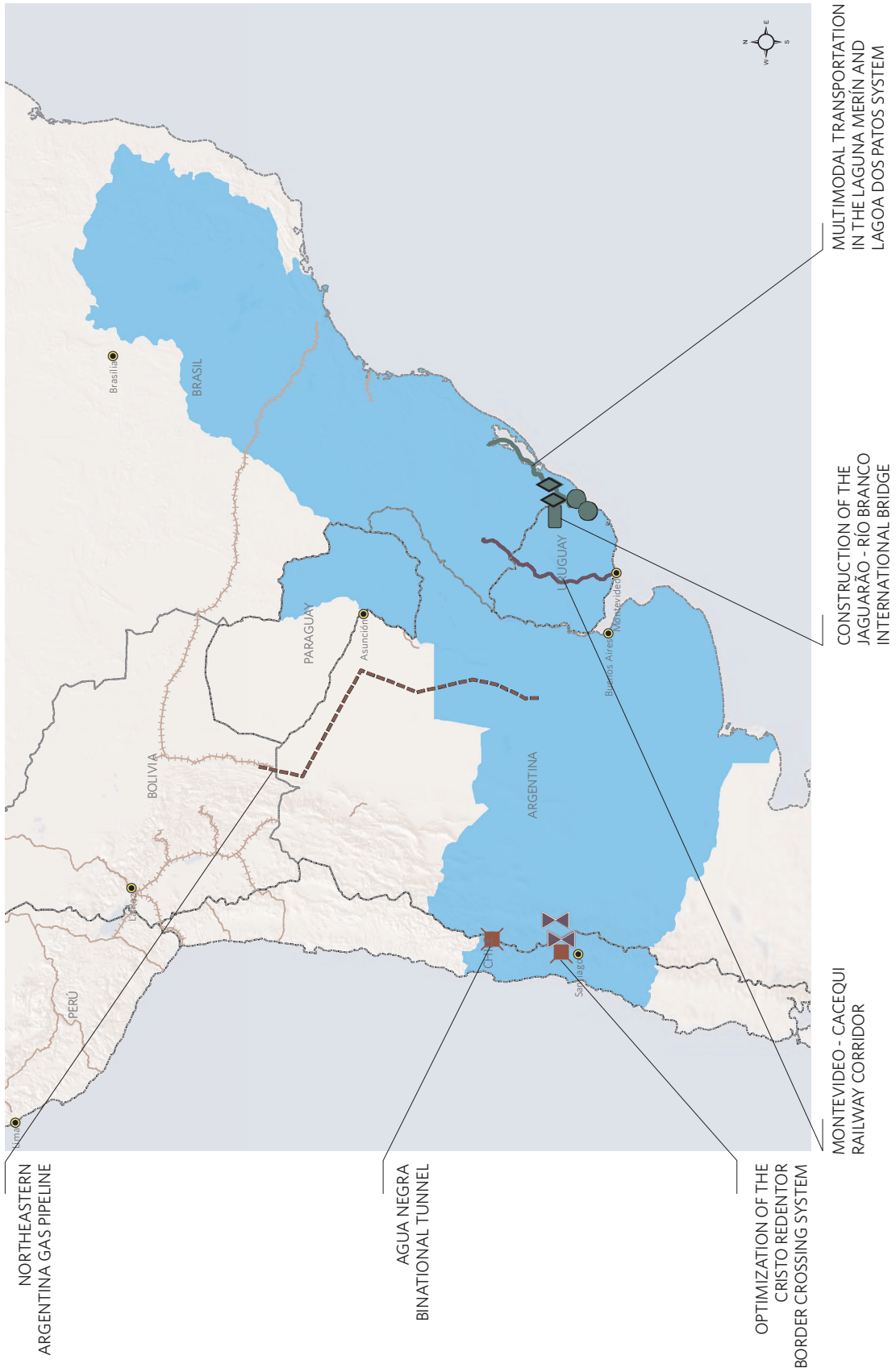
The Optimization of the Cristo Redentor Border Crossing System is another project that seeks to boost connectivity between Argentina and Chile through a series of works and information and management systems, enabling a qualitative leap forward in the main border center between both countries.

The Northeastern Argentina Gas Pipeline, the only energy project included in API, is the second project in the Hub in terms of estimated investment. This large construction project is 1,500 km long, including the trunk pipeline and the provincial branches.


The gas pipeline will strengthen Argentina's energy matrix by linking the gas reserves located in northern Argentina and in Bolivia to the country's areas where the demand is greater.

The other projects seek to strengthen connectivity between Brazil and Uruguay by promoting cross-border development. To this end, different subsectors are involved: a rail corridor, an international road bridge, and river transportation between the Mirim (Uruguay) and Dos Patos (Brazil) lakes.


API PROJECTS IN THE MERCOSUR-CHILE HUB








API PROJECTS IN THE MERCOSUR-CHILE HUB *US\$ million**API 25. NORTHEASTERN ARGENTINA GAS PIPELINE****Estimated Investment:*** 1,000.0 | **Countries:** AR - BO

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC68	NORTHEASTERN ARGENTINA GAS PIPELINE	5		1,000.0	AR	December 2022



API 26. CONSTRUCTION OF THE JAGUARÃO - RÍO BRANCO INTERNATIONAL BRIDGE**Estimated Investment:*** 93.5 | **Countries:** BR - UY

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC22	CONSTRUCTION OF THE JAGUARÃO - RÍO BRANCO INTERNATIONAL BRIDGE	2		93.5	BR - UY	July 2017

API 27. MULTIMODAL TRANSPORTATION IN THE LAGUNA MERÍN AND LAGOA DOS PATOS SYSTEM**Estimated Investment:*** 20.8 | **Countries:** BR - UY






Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC85	DREDGING OF MIRIM LAKE	2		2.9	BR	March 2017
MCC157	DREDGING OF THE TACUARÍ RIVER	2		1.4	BR	February 2017
MCC158	DREDGING OF AND INSTALLATION OF SIGNS, MARKERS AND AIDS TO NAVIGATION ON THE MIRIM LAKE - DOS PATOS LAKE SYSTEM	2		2.6	BR	February 2017
MCC159	LA CHARQUEADA PORT TERMINAL AND DREDGING OF THE CEBOLLATI RIVER	2		7.0	UY	February 2017
MCC160	PORT TERMINAL AND DREDGING OF TACUARÍ	2		7.0	UY	September 2016

API 28. MONTEVIDEO - CACEQUI RAILWAY CORRIDOR**Estimated Investment:*** 139.9 | **Countries:** BR - UY


Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC30	REHABILITATION OF THE MONTEVIDEO - RIVERA RAILWAY	2		134.9	UY	March 2018
MCC115	REHABILITATION OF THE RIVERA - SANTANA DO LIVRAMENTO - CACEQUI RAILWAY SECTION	2		5.0	BR - UY	December 2012



API 29. OPTIMIZATION OF THE CRISTO REDENTOR BORDER CROSSING SYSTEM**Estimated Investment:*** 278.0 | **Countries:** AR - CH

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC151	INTEGRATED FREIGHT CONTROL CENTER AT USPALLATA (CRISTO REDENTOR SYSTEM OPTIMIZATION)	3		90.0	AR	December 2017
MCC152	PASSENGER CONTROL CENTER AT LOS HORCONES (CRISTO REDENTOR SYSTEM OPTIMIZATION)	3		80.0	AR	December 2017
MCC153	NEW LOS LIBERTADORES BORDER COMPLEX (CRISTO REDENTOR SYSTEM OPTIMIZATION)	3		76.0	CH	June 2017
MCC154	REHABILITATION OF THE CRISTO REDENTOR TUNNEL AND CARACOLES (CRISTO REDENTOR SYSTEM OPTIMIZATION)	3		4.0	AR - CH	December 2018
MCC155	BINATIONAL MANAGEMENT CONTROL SYSTEM AT THE CRISTO REDENTOR BORDER CROSSING (CRISTO REDENTOR SYSTEM OPTIMIZATION)	3		28.0	AR - CH	December 2018

API 30. AGUA NEGRA BINATIONAL TUNNEL**Estimated Investment:*** 1,600.0 | **Countries:** AR - CH

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC110	AGUA NEGRA BINATIONAL TUNNEL	4		1,600.0	AR - CH	December 2022

 PROFILING
  PRE-EXECUTION
  EXECUTION
  COMPLETED

As regards the estimated investment in the individual projects, the Rehabilitation of the Montevideo - Rivera Railway, related to Brazil-Uruguay connectivity, ranks third after the tunnel and the gas pipeline, with a significantly lower investment amount. The project concerned with the tunnel is at the pre-execution stage and is planned to be financed with public funds. The other two projects are financed by public-private initiatives and are at the execution stage.

Except for the tunnel and gas pipeline projects, which are scheduled for 2022, all the projects are planned to be completed in the next four years (up to 2019).

TECHNICAL SPECIFICATIONS OF THE HUB'S PROJECTS**ROAD SUBSECTOR**

- Upgrade of 19 km of roads
- Construction of a 400-m long and 16.85-m wide bridge
- Construction of a 13.8-km four-lane tunnel
- Rehabilitation of a binational tunnel

**BORDER CROSSINGS SUBSECTOR**

- Construction of three border complexes, one of them with an area of 32 ha
- Optimization of a freight control center with an area of 47 ha
- Optimization of a passenger control center with an area of 20 ha
- Design of a management control system made up of interconnected stations

**RAIL SUBSECTOR**

- Rehabilitation of 580 km of rails

**RIVER SUBSECTOR**

- Dredging works, upgrade of corridors and complementary works in two lakes and their tributaries
- Construction of two river port terminals

**ENERGY INTERCONNECTION SUBSECTOR**

- Construction of a 1,500-km, 24-inch diameter trunk gas pipeline

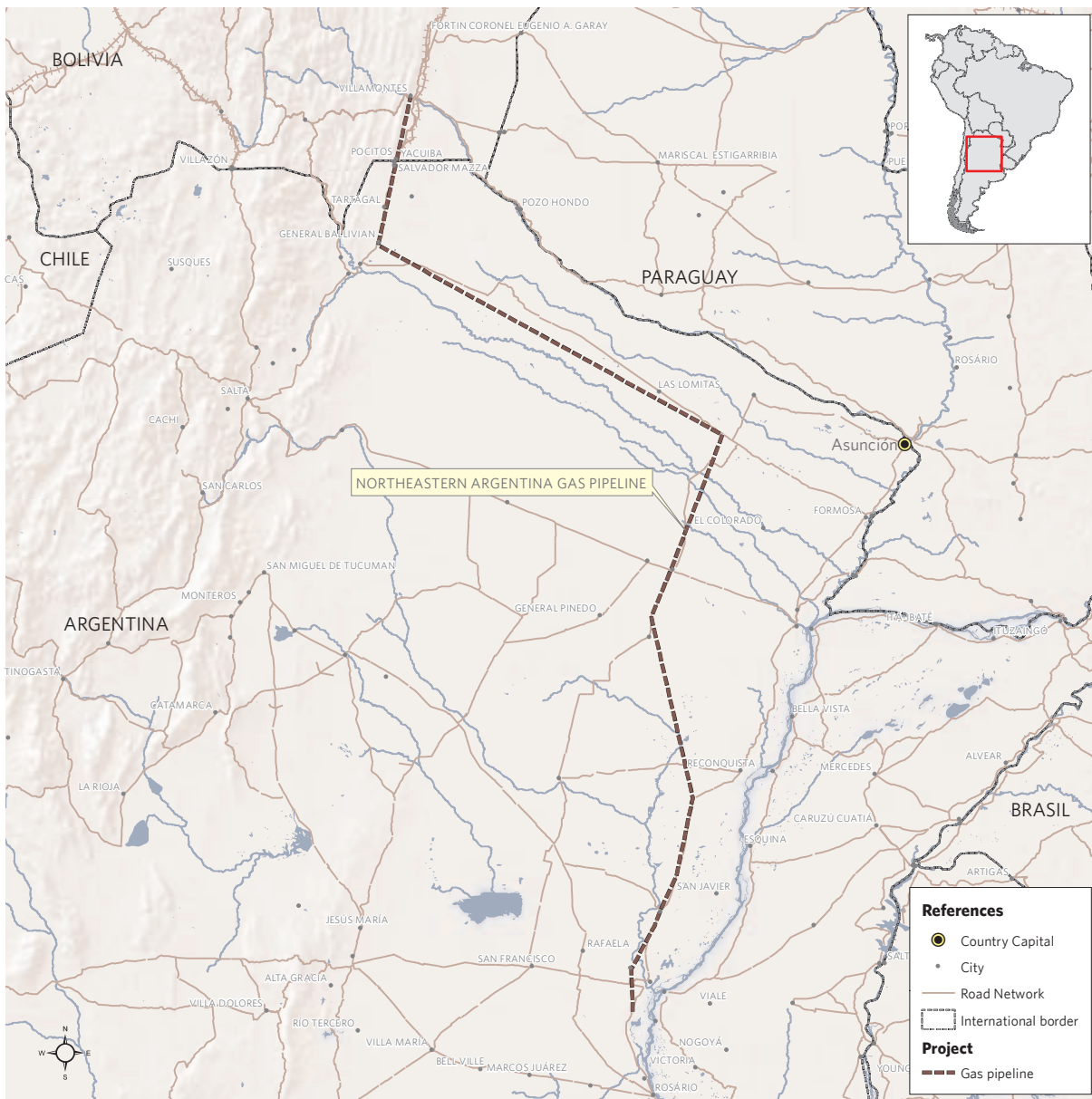
NORTHEASTERN ARGENTINA GAS PIPELINE

ARGENTINA - BOLIVIA

Subsector: Energy interconnection
Estimated investment: US\$1,000,000,000
Type of financing: Public-private
Project stage: Execution
Life cycle stage and number of projects: Execution (1)

Estimated Completion Date:
December 2022

NORTHEASTERN ARGENTINA GAS PIPELINE PROJECT





MCC API 25


Rationale

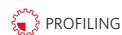
The purpose of this structured project is to ensure natural gas supply to the northeastern region of Argentina through large-diameter pipes, and to secure a sustained provision of the necessary flows for use in natural gas vehicles and in industrial and agribusiness production.

The trunk gas pipeline will link, in the vicinity of Santa Fe city, the gas reserves located in northern Argentina and in Bolivia with the Argentine Interconnected System of Trunk Gas Pipelines. This interconnection will ensure the flow of significant gas volumes in those parts of Argentina where the demand is greater, as well as expanded gas availability in the provinces. The provinces benefitting from the project either lack gas supply or have an insufficient and not adequate provision to secure the economic development that the region requires.

Furthermore, the project will enhance environmental standards, as it encourages the replacement of other, more polluting fossil fuels. In addition, it has been identified that a program of complementary actions associated with the border strip is needed, involving infrastructure, environmental preservation, and logistics and production integration opportunities.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC68	NORTHEASTERN ARGENTINA GAS PIPELINE	5		1,000.0	AR	December 2022



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Structured Project Technical Specifications

- A 1,500-km, 24-inch diameter trunk gas pipeline

CONSTRUCTION OF THE JAGUARÃO - RÍO BRANCO INTERNATIONAL BRIDGE

BRAZIL - URUGUAY

Subsector: Road

Estimated investment: US\$93,500,000

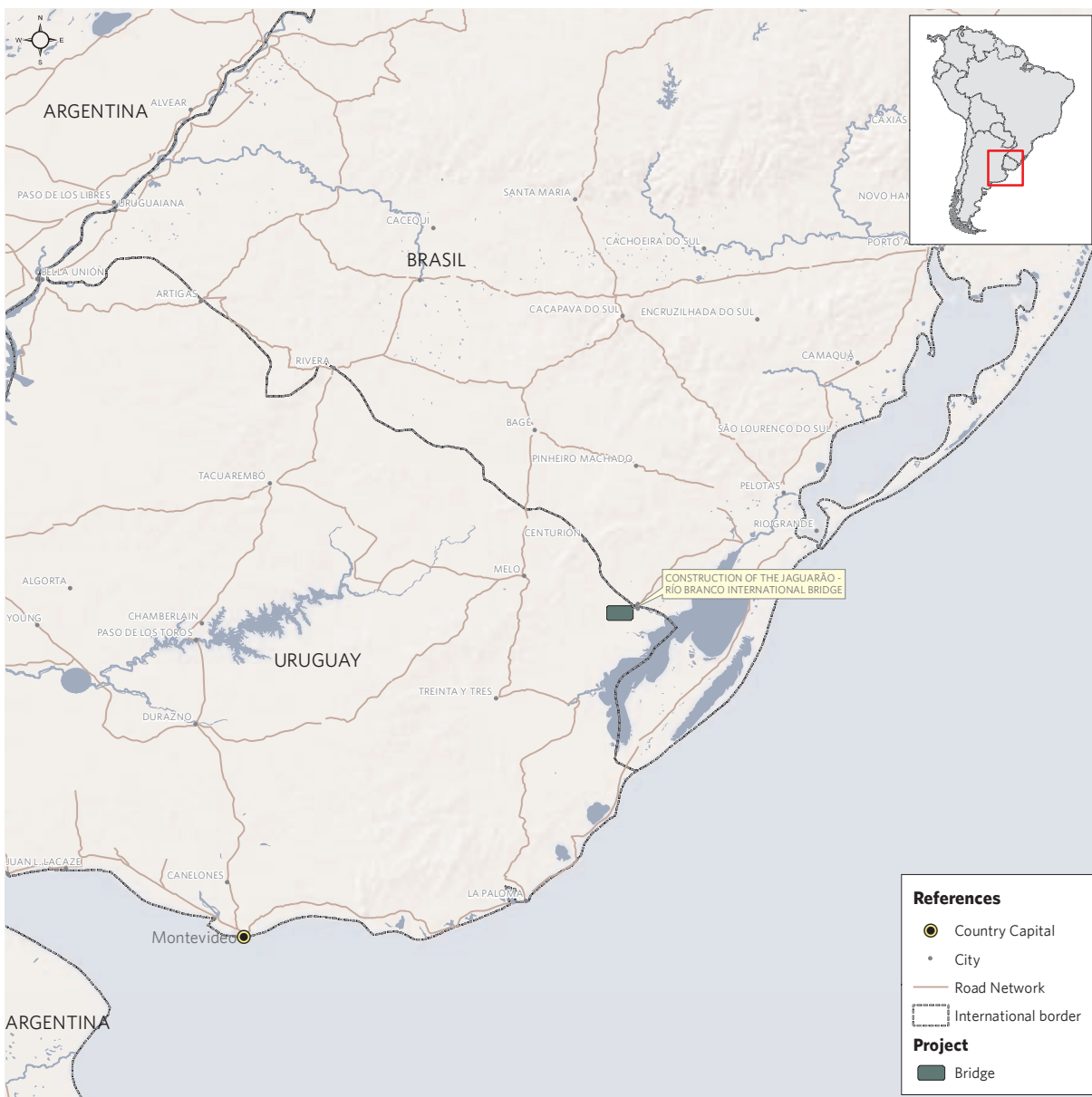
Type of financing: Public

Project stage: Pre-execution

Life cycle stage and number of projects: Pre-execution (1)

Estimated Completion Date:
July 2017

CONSTRUCTION OF THE JAGUARÃO - RÍO BRANCO INTERNATIONAL BRIDGE PROJECT






MCC API 26

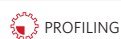
Rationale

The purpose of the project is to ensure an unrestricted flow of international freight and passenger road traffic, leveraging the integration of the areas of influence through increased trade activity and greater cultural exchange. Through the reduction of traffic on the Chuí-Chuy commercial road by diverting it to the new international bridge, the project will: (i) protect the nature reserves on the Atlantic coast and alleviate traffic congestion in the Pelotas-Rio Grande section of Brazilian route BR-392/RS; (ii) result in the coastal road being used by passenger and tourist traffic only; and (iii) reduce the distance by road between Montevideo and Porto Alegre by 53 km.

The technical, economic and environmental feasibility study estimates that 75% of cargo vehicles and 50% of passenger vehicles that currently use the Chuí-Chuy road in long-distance trips will be diverted to the new Jaguarão-Río Branco bridge.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC22	CONSTRUCTION OF THE JAGUARÃO - RÍO BRANCO INTERNATIONAL BRIDGE	2		93.5	BR - UY	July 2017



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Structured Project Technical Specifications

- Construction of a 400-m long and 16.85-m wide bridge
- 15.5 km of approach roads
- Two border complexes

MULTIMODAL TRANSPORTATION IN THE LAGUNA MERÍN AND LAGOA DOS PATOS SYSTEM

BRAZIL - URUGUAY

Subsector: River

Estimated investment: US\$20,825,000

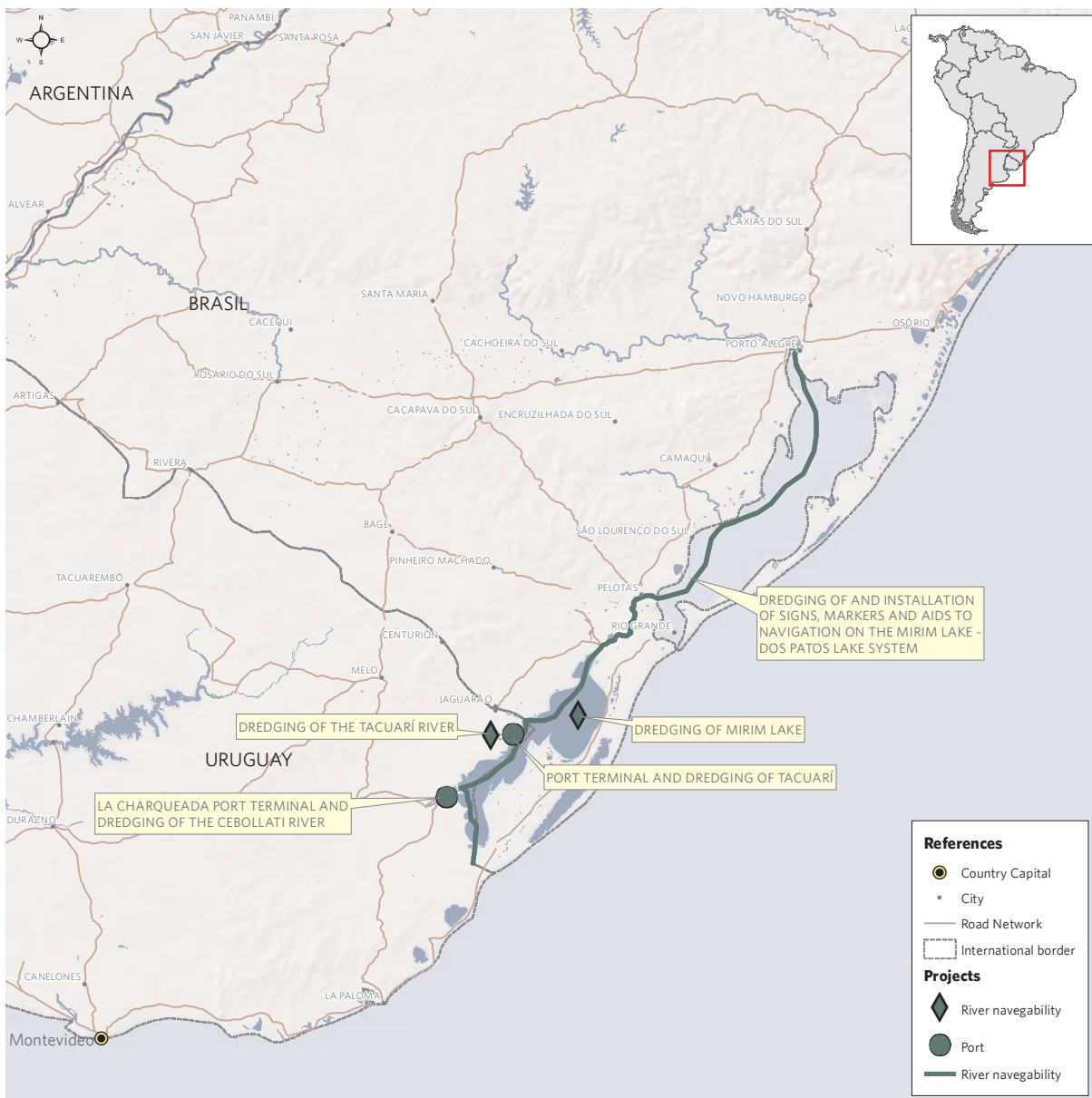
Type of financing: Public-private

Project stage: Execution

Life cycle stage and number of projects: Pre-execution (1); execution (4)

Estimated Completion Date:
February 2017

MULTIMODAL TRANSPORTATION IN THE LAGUNA MERÍN AND LAGOA DOS PATOS SYSTEM PROJECT





MCC API 27

Rationale

This project will improve connectivity between the eastern region of Uruguay and the southern area of Brazil by enabling unobstructed navigation on the Merín and Dos Patos lake system. The construction of Route BR-471/RS (Chuí-Pelotas) in the 1970s resulted in the closing of this waterway. The restoration of navigation activities will help carry greater cargo volumes, reduce freight and infrastructure maintenance costs, and alleviate bottlenecks at border crossings. It will also mitigate the environmental impact caused by greenhouse gas emissions and noise pollution, and reduce the number of road accidents.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC85	DREDGING OF MIRIM LAKE	2		2.9	BR	March 2017
MCC157	DREDGING OF THE TACUARÍ RIVER	2		1.4	BR	February 2017
MCC158	DREDGING OF AND INSTALLATION OF SIGNS, MARKERS AND AIDS TO NAVIGATION ON THE MIRIM LAKE - DOS PATOS LAKE SYSTEM	2		2.6	BR	February 2017
MCC159	LA CHARQUEADA PORT TERMINAL AND DREDGING OF THE CEBOLLATI RIVER	2		7.0	UY	February 2017
MCC160	PORT TERMINAL AND DREDGING OF TACUARÍ	2		7.0	UY	September 2016

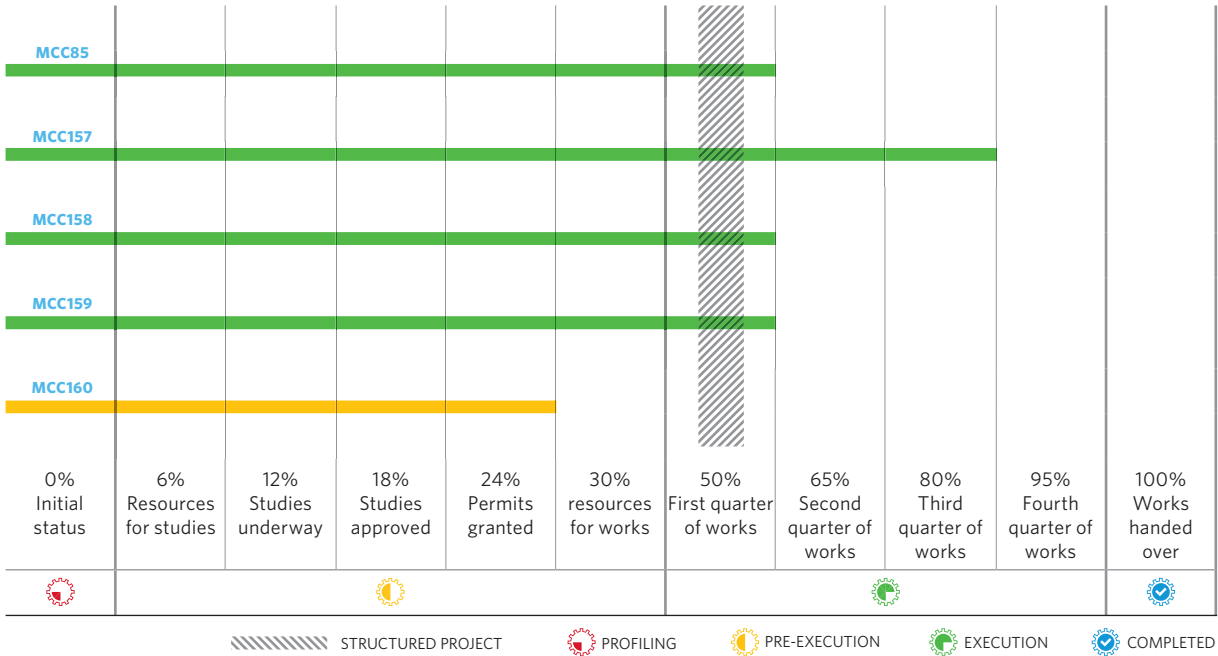
PROFILING
 PRE-EXECUTION
 EXECUTION
 COMPLETED

Structured Project Technical Specifications

- Dredging works, upgrade of corridors and complementary works in two lakes and their tributaries (including dredging, the installation of signs and markers and aids to navigation in navigable waterways, and cartographic and hydrographic surveys)
- Construction of two river port terminals
- Dredging of 903,000 m³ of material

MULTIMODAL TRANSPORTATION IN THE LAGUNA MERÍN AND LAGOA DOS PATOS SYSTEM

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



Last Year's Major Developments

Project Dredging of and Installation of Signs, Markers and Aids To Navigation on the Mirim Lake - Dos Patos Lake System (MCC158) and project La Charqueada Port Terminal and Dredging of the Cebollati River (MCC159) moved on a stage and are currently in execution. According to information supplied by Uruguay, even though all authorizations have been granted, the concessionaire has not started the works waiting for a new investor to join in.

MONTEVIDEO - CACEQUI RAILWAY CORRIDOR

BRAZIL - URUGUAY

Subsector: Rail

Estimated investment: US\$139,900,000

Type of financing: Public-private

Project stage: Execution

Life cycle stage and number of projects: Execution (1); completed (1)

Estimated Completion Date:
March 2018

MONTEVIDEO - CACEQUI RAILWAY CORRIDOR PROJECT







MCC API 28

Rationale

This project has significant cross-border implications, and involves works in both Uruguay and Brazil, as it will connect the city of Montevideo (Uruguay) with the Rio Grande port (Brazil) and the southern and southeastern regions of Brazil by rail. Furthermore, it will strengthen regional connectivity and create cross-border synergies between both countries, enhancing regional production flows. It is also expected to activate and optimize rail transportation by opening up cargo transportation opportunities, which have so far focused mainly on road transportation.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC30	REHABILITATION OF THE MONTEVIDEO - RIVERA RAILWAY	2		134.9	UY	March 2018
MCC115	REHABILITATION OF THE RIVERA - SANTANA DO LIVRAMENTO - CACEQUI RAILWAY SECTION	2		5.0	BR - UY	December 2012

 PROFILING
  PRE-EXECUTION
  EXECUTION
  COMPLETED

Structured Project Technical Specifications

- Rehabilitation of 580 km of rails

OPTIMIZATION OF THE CRISTO REDENTOR BORDER CROSSING SYSTEM

ARGENTINA - CHILE

Subsectors: Border crossings, road
Estimated investment: US\$278,000,000
Type of financing: Public-private
Project stage: Pre-execution
Life cycle stage and number of projects: Pre-execution (4),
 execution (1)

Estimated Completion Date:
December 2018

OPTIMIZATION OF THE CRISTO REDENTOR BORDER CROSSING SYSTEM PROJECT





MCC API 29

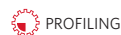
Rationale

This structured project consists in a plan to improve the infrastructure as well as the technological and operational aspects involved in the operation of all the border building complexes and management stations that form part of the Cristo Redentor border crossing. It is a systemic solution to the congestion problem posed for years by the growing traffic demand to the services provided by both countries in this connection.

This initiative considers all the aspects affecting bilateral traffic, without seeing congestion as the result of a single cause, and takes into account new concepts such as the optimization of space by allocating different areas for different services depending on vehicle type, which prevents border control areas from being used for other activities and, thus, users from being delayed longer than necessary. Also worth of note are the implementation of new technologies, the design of a better model for the flow of people and vehicles in the control area, which have an impact on the working conditions of customs officers.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC151	INTEGRATED FREIGHT CONTROL CENTER AT USPALLATA (CRISTO REDENTOR SYSTEM OPTIMIZATION)	3		90.0	AR	December 2017
MCC152	PASSENGER CONTROL CENTER AT LOS HORCONES (CRISTO REDENTOR SYSTEM OPTIMIZATION)	3		80.0	AR	December 2017
MCC153	NEW LOS LIBERTADORES BORDER COMPLEX (CRISTO REDENTOR SYSTEM OPTIMIZATION)	3		76.0	CH	June 2017
MCC154	REHABILITATION OF THE CRISTO REDENTOR TUNNEL AND CARACOLES (CRISTO REDENTOR SYSTEM OPTIMIZATION)	3		4.0	AR - CH	December 2018
MCC155	BINATIONAL MANAGEMENT CONTROL SYSTEM AT THE CRISTO REDENTOR BORDER CROSSING (CRISTO REDENTOR SYSTEM OPTIMIZATION)	3		28.0	AR - CH	December 2018



PROFILING



PRE-EXECUTION



EXECUTION



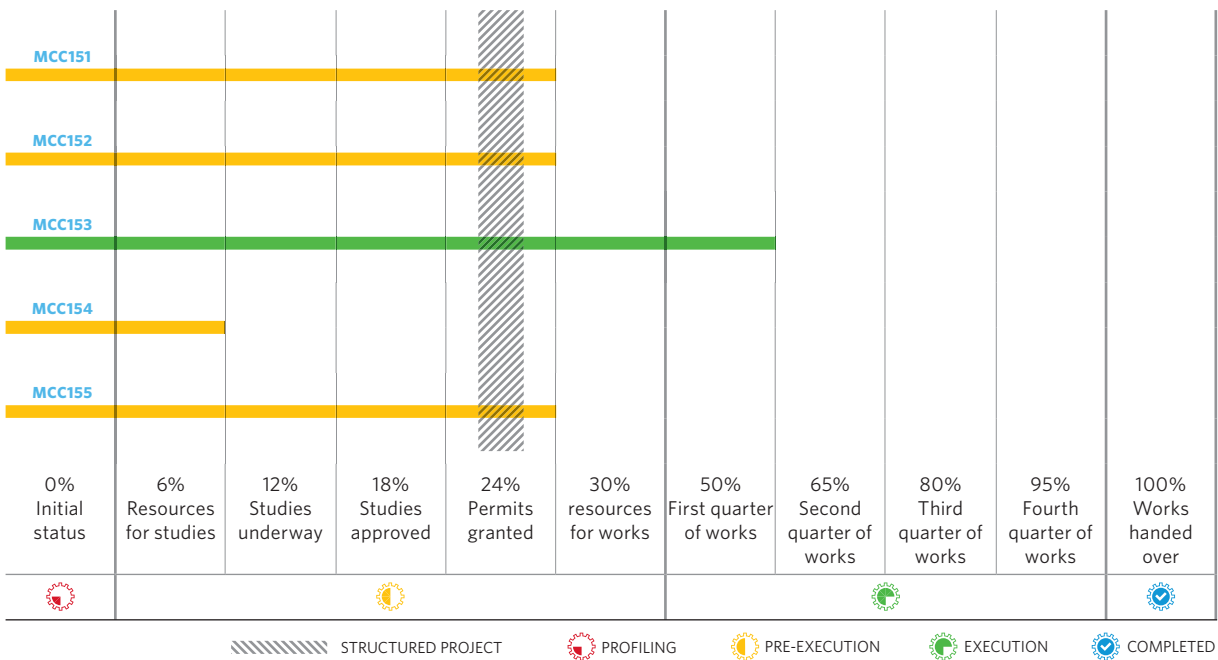
COMPLETED

OPTIMIZATION OF THE CRISTO REDENTOR BORDER CROSSING SYSTEM

Structured Project Technical Specifications

- Optimization of a freight control center with an area of 47 ha
- Optimization of a passenger control center with an area of 20 ha (including the consolidation and improvement of the work area for private cars, the creation of a new area for buses, the construction of a new housing facility for 150 people, the construction of a new lounge facility and rest areas for officers from the institutions of both countries, and the construction of a new building for a brief rest)
- Construction of a 32,000 m² border complex (including civil works and installations needed to carry out tasks of control and surveillance of people, vehicles, goods and luggage)
- Rehabilitation of a binational tunnel
- Design of a management control system made up of interconnected management stations

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



AGUA NEGRA BINATIONAL TUNNEL

ARGENTINA - CHILE

Subsectors: Road
Estimated investment: US\$1,600,000,000
Type of financing: Public
Project stage: Pre-execution
Life cycle stage and number of projects: Pre-execution (1)

Estimated Completion Date:
December 2022

AGUA NEGRA BINATIONAL TUNNEL PROJECT





MCC API 30

Rationale

This project consists in the construction of a double tunnel at the Agua Negra border crossing, on the border between Chile and Argentina. Given its geographical location, this is an important regional integration point, as it provides a further connection from the central area of Argentina to the area of influence of the Coquimbo port in Chile, which will encourage tourism and international trade among all the countries that make up the MERCOSUR-Chile Hub. The alignment, with a nominal length of 13.8 km, will offer a faster and safer route, open all year round.

At the bilateral level, this project was analyzed within the framework of a joint technical group and, later, by the Agua Negra Binational Tunnel Body or EBITAN, created pursuant to the Maipú Treaty signed by Argentina and Chile in 2009. Moreover, in February 2015, the Second Complementary Protocol to such Treaty, concerned with the Agua Negra Tunnel binational project, was approved by Law No. 27,124.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC110	AGUA NEGRA BINATIONAL TUNNEL	4		1,600.0	AR - CH	December 2022



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Structured Project Technical Specifications

- Two parallel tunnels, one for each direction of travel, running along 13.8 km

PBB PERU-BRAZIL-BOLIVIA

Integration and Development Hub



Population 12,730,732
Population density 11.0 people/km²
Area 1,159,504 km²

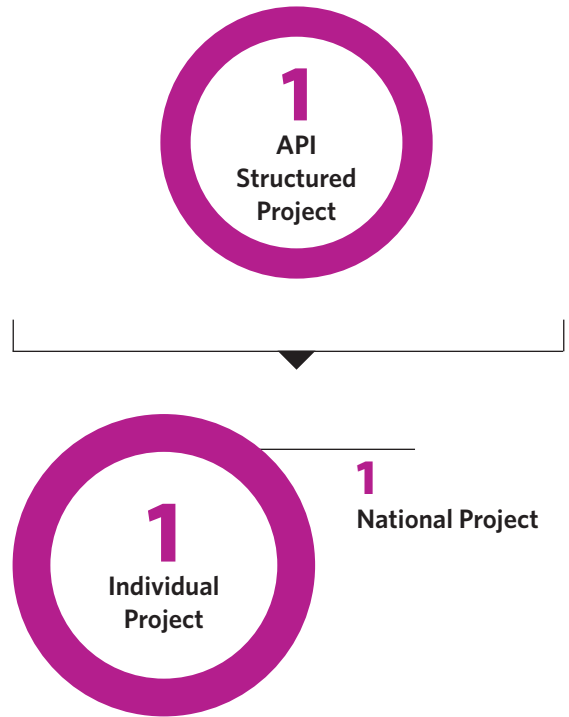
GDP US\$71,116 million
Services 77.9%
Industries 11.4%
Agriculture 5.8%
Mining and quarrying 5.2%



Estimated Investment

US\$ million

48.0



Projects by Stage



PROFILING

0
0.0



PRE-EXECUTION

0
0.0



EXECUTION

1
48.0



COMPLETED

0
0.0

Projects by Sector



Transport

1
48.0

Projects by Type of Financing



Public

1
48.0

Projects by Subsector

Transport



Road

1
48.0

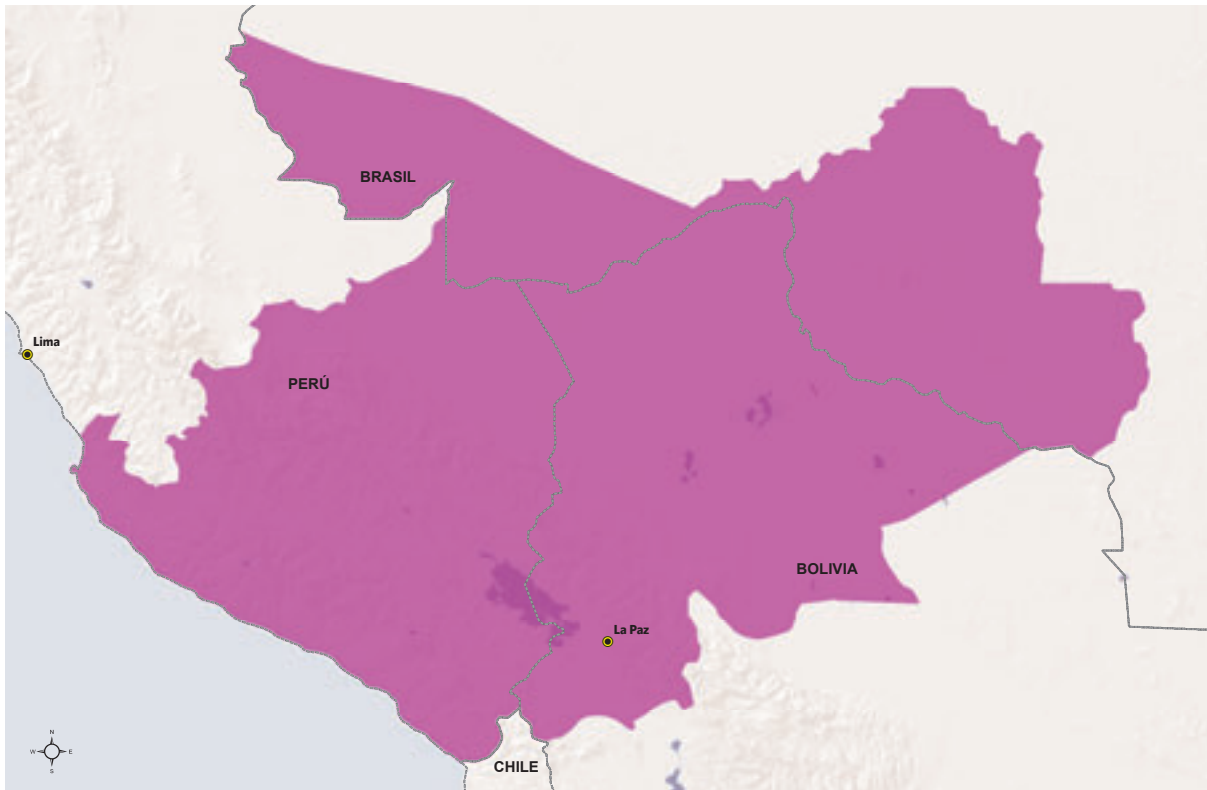
PERU-BRAZIL-BOLIVIA

Presentation of the Hub

The Peru-Brazil-Bolivia Hub⁽¹⁾ runs along the Peruvian departments of Tacna, Moquegua, Arequipa, Apurímac, Cusco, Madre de Dios and Puno; the Bolivian departments of Pando, Beni and La Paz; and the Brazilian states of Acre and Rondônia.

The Hub covers 7% of the area of South America (1,159,504 km²), and is home to 3% of the South American population (12,730,732 inhabitants), in addition to being the less densely populated Hub, with 11 inhabitants per km², and accounting for 2% of the GDP of South America (US\$71,116 million).⁽²⁾

AREA OF INFLUENCE OF THE PERU-BRAZIL-BOLIVIA HUB



As regards infrastructure, the **road network** of the countries involved in the Hub is 1,742,580 km long, 11% of which are paved. The **rail network** has a length of 35,070 km. The **port system** includes seven major ports, two of which handle more than 1.5 million tons per year. The **airport system** has 19 airports, 11 of which are domestic. As for **electricity generation**, the countries involved in the Hub have an installed power capacity of 132,000 MW, almost entirely contributed by Brazil (91%).

The presence of **indigenous communities** is very relevant. They live in all the Andean territory of Bolivia and in the south of Peru, as well as in

¹ See "Caracterización Socioeconómica y Ambiental del Eje Perú-Brasil-Bolivia," COSIPLAN-IIRSA, 2015, at <http://www.iirsa.org/peru-brasil-bolivia.asp>

² At current 2013 prices.

the Amazon territories of the eastern area of the Hub. In general, these communities are devoted to subsistence activities (small-scale agriculture) and their members may also be rural or mining wage-earners.

With regard to the **protected areas**, there are about 132 territorial units with some degree of environmental protection that cover, approximately, 253,000 km², accounting for about 22% of the total area of the Hub. Of this area, 40% is contributed by Brazil (103,000 km²), 36% by Peru (91,000 km²), and 24% by Bolivia (59,000 km²). These regions feature important landscape, flora and fauna conservation areas, including two biosphere reserves, three Ramsar sites, and 16 national parks.

Overall, all the Andean territory of the Hub is exposed to **natural hazards** resulting mostly from seismic and volcanic geodynamic processes, whereas the eastern area of the Hub covering the Amazonian plains is exposed to meteorological and hydrological hazards due to heavy rains that cause floods and waterlogging, mainly in the basin of Madeira river and its tributaries. The Pacific coastline is exposed to tsunamis generated by earthquakes. In addition, landslides are common in all the territory of the Hub, which hosts steep slopes and high precipitation rates.

The countries involved in the Peru-Brazil-Bolivia Hub defined one API project for the purpose of consolidating connectivity in their territories. It is made up of one individual project from the COSIPLAN Portfolio, and amounts to an investment estimated at US\$48 million.

The Hub involves 28% of Bolivia's economy, 20% of Peru's economy, and 1% of Brazil's economy. In absolute terms, Peru contributes 57% to the Hub's aggregate GDP, followed by Brazil (30%), and Bolivia (14%).

The Hub shares some regions of its area of influence with the Amazon (AMA), Andean (AND), and Central Inter-oceanic (IOC) Hubs.

PERU-BRAZIL-BOLIVIA

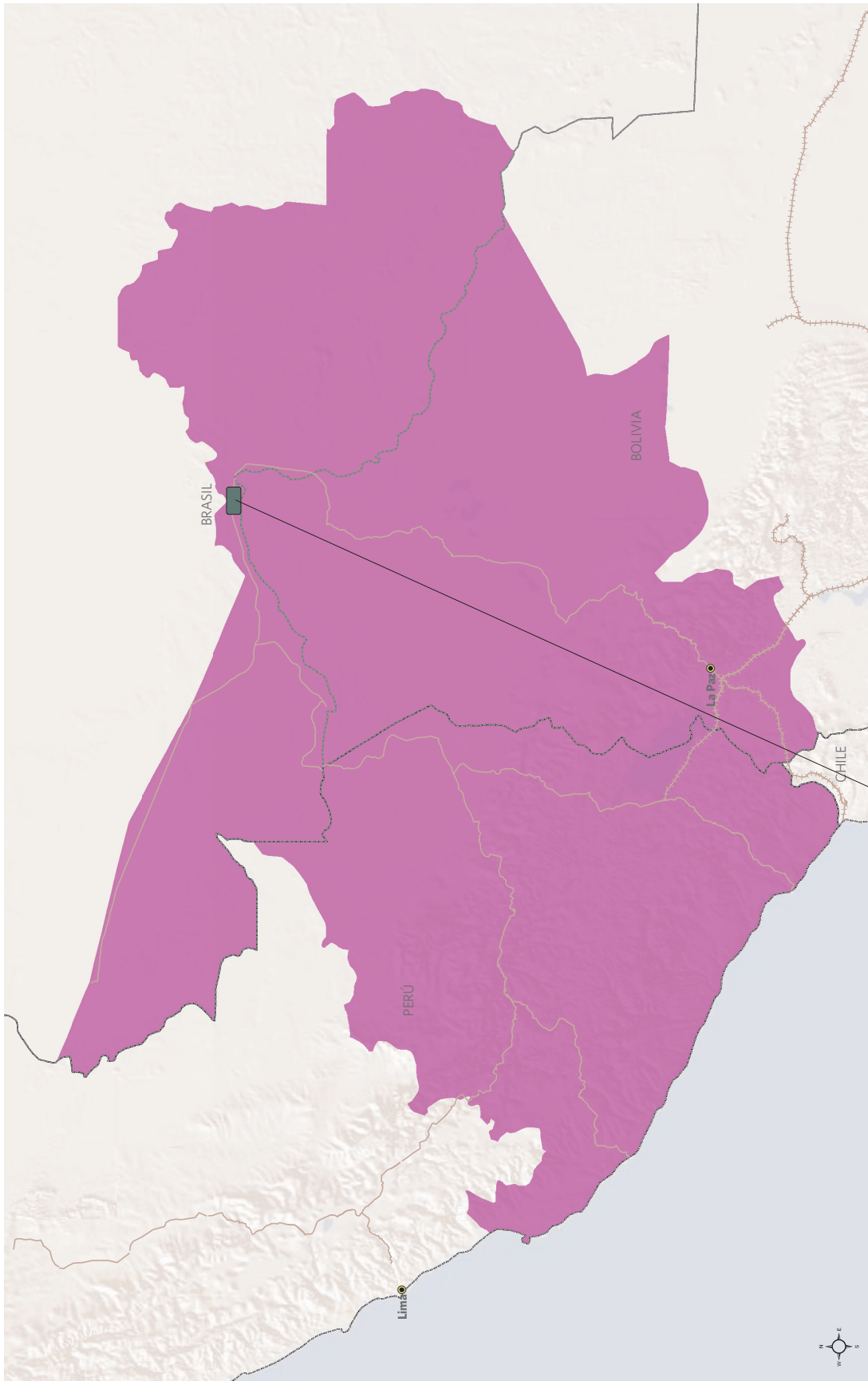
API Projects

The Peru-Brazil-Bolivia is the only Hub with a single project in API.

The project will have a positive impact on the development of the three countries involved in the Hub. Its purpose is to consolidate the road corridor that runs from Peru's coast on the Pacific to the Brazilian state of Acre through the construction of a 1-km long bridge over the Madeira river. This corridor also runs along Peru's border with Bolivia.


This project will strengthen cross-border (social, cultural, educational, tourism, economic, and trade) synergies through the development of logistics chains and production integration processes, fostering the internationalization of the micro- and small-sized enterprises located in the region. Furthermore, at the local level, the project will contribute to reducing the vulnerability of border cities and towns and, overall, of the Acre state economy. At present, it is necessary to use different types of boats to cross the Madeira river.

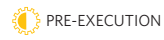
API PROJECTS IN THE PERU-BRAZIL-BOLIVIA HUB



API PROJECTS IN THE PERU-BRAZIL-BOLIVIA HUB *US\$ million

API 31. PORTO VELHO - PERUVIAN COAST CONNECTION
Estimated Investment:* 48.0 | **Countries:** BR - PE

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
PBB64	BRIDGE OVER THE MADEIRA RIVER IN ABUNÁ (BR-364/RO)	2		48.0	BR	March 2017



The estimated investment for the project is US\$48 million. The project, which is at the execution stage, the first quarter of its works being completed, is estimated to end in 2017.

TECHNICAL SPECIFICATIONS OF THE HUB'S PROJECTS



ROAD SUBSECTOR

- Construction of a 1,084-m long bridge

PORTO VELHO - PERUVIAN COAST CONNECTION

BRAZIL - PERU

Subsector: Road

Estimated investment: US\$48,000,000

Type of financing: Public

Project stage: Execution

Life cycle stage and number of projects: Execution (1)

Estimated Completion Date
March 2017

PORTO VELHO - PERUVIAN COAST CONNECTION PROJECT





PBB API 31

Rationale

This structured project creates significant cross-border (social, cultural, educational, tourism, economic, and trade) synergies by strengthening regional connectivity networks that coordinate and promote the integration of Brazil and Peru. It also encourages important opportunities for the development of logistics chains and production integration processes, fostering the internationalization of the micro- and small-sized enterprises located in the region. Furthermore, at the local level, the project will contribute to reducing the vulnerability of border cities and towns and, overall, of the Acre state economy.

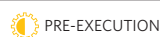
With the completion of the Southern Interoceanic Highway in Peru on July 15, 2011, the road connection between Peru and Brazil through the Acre state became a reality. However, this connection is interrupted in the Rondônia state, since in order to get to other Brazilian localities either in the direction of Manaus, through Porto Velho and the Madeira waterway, or in the direction of the central-western and southeastern regions, it is necessary to cross the Madeira river in the small village of Abunã using a draft boat, which affects transport efficiency.

INDIVIDUAL PROJECTS *US\$ million

Code	Name of the Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
PBB64	BRIDGE OVER THE MADEIRA RIVER IN ABUNÃ (BR-364/RO)	2		48.0	BR	March 2017



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Structured Project Technical Specifications

- Construction of a 1,084-m long bridge

Chapter 4

The Territory and Integration Infrastructure Planning

For more than a decade, the South American governments have been making a major effort of cooperation and dialogue with the purpose of securing a greater and more sustainable physical integration in the region. The work undertaken by IIRSA in the first ten years and by COSIPLAN since 2011 focuses on infrastructure project planning as a key component for the development of the South American territory.

The distinctive feature of this process has been infrastructure planning in the transportation, energy and communications sectors with a regional perspective. With a focus on the territory, this process is intended to enhance the competitiveness and complementariness of the economies of the region, contribute to reducing regional disparities and social inequality, and improve life expectancy and quality of life in every country and in the region as a whole.

4.1. The Integration and Development Hubs

In order to frame infrastructure planning, theoretical and practical tools linking the territory and infrastructure were used, which helped set up the Integration Infrastructure Project Portfolio. This was possible thanks to the development and application of the Indicative Territorial Planning Methodology. This methodology is based on the identification of Integration and Development Hubs,⁽¹⁾ which organize the South American territory and structure the Portfolio.

The Hubs and their areas of influence have been defined considering the following characteristics:

- **Geographical coverage of countries and regions.** The Hubs group territories that allow the presence and participation of all twelve South American countries in the physical integration process. Their area of influence covers regions with different population densities, including the main population concentrations.
- **Identification of both existing and potential trade flows.** The Hubs are areas that contain the main intra-regional trade flows (following historical trade patterns), enabled by the infrastructure in place, and that also consider the production potential of the regional spaces.
- **Investments in the areas of influence of the Hubs.** Account has been taken of the volume of the investments recently made, of those being disbursed, and also of the funds planned to be invested in the short run within the area of influence of each Hub.
- **Interest and participation of the local population and the production sectors** in territorial development, logistics projects, and infrastructure.
- **Social and environmental sustainability.** In light of the diversity of ecosystems in each region, forest reserves, highly fragile ecological areas, as well as the rights and opportunities of local population have been identified.

Ten Integration and Development Hubs,⁽²⁾ with areas of influence that may be superimposed on one another, have been defined.

Once the geographic area of the Hubs was established following the above-mentioned criteria, a key aspect was the link between them and infrastructure. On the basis of the economic, social and environmental characterization of the area of influence of the Hubs, a direct coordination of the projects and the territory is sought through the Indicative Territorial Planning Methodology.

The development of the Indicative Territorial Planning Methodology was inspired by the conviction that investments and projects have a substantial impact on the economy and the environment of the region and contribute to social development, while creating new economic opportunities for the local population.

An Integration and Development Hub is a multinational territorial space involving specific natural resources, human settlements, production areas and logistics services. Linked by transportation, energy and communications infrastructure, it facilitates the flow of goods and services, people, and information within its own territory as well as from/to the rest of the world.

¹ See <http://www.iirsa.org/eid.asp>

² The Indicative Territorial Planning Methodology has not been applied to the Southern Andean Hub yet.



4.2. The Indicative Territorial Planning Methodology

The process of application of the Indicative Territorial Planning Methodology⁽³⁾ began with the launch of IIRSA. This work was carried out at the meetings of the Executive Technical Groups (GTEs) in a participative working environment that involved the twelve South American countries, and it took place in two phases.

The COSIPLAN Project Portfolio is a set of high-impact works for the integration and socioeconomic development of the region. It is made up of transport, energy and communications projects that promote regional connectivity and create sustainable economic and social development in South America.

This planning process was performed in two phases. In the first phase, based on the concept of synergies, **Project Groups**, their **Anchor Projects**, **Hinge Projects** and **strategic functions** were defined for each Hub.

Project Groups. A Project Group is a set of interdependent projects in a given geoeconomic space having synergetic effects upon sustainable development. A Project Group enables the capitalization of the benefits of a set of investments, which are greater than the aggregate effects of its individual component projects. The process is territory-based and takes into account the location of projects, their relationships with the prevailing or potential economic activities, and related environmental and social aspects.

Strategic Function. The effects of a Project Group constitute its strategic function, i.e. its common objective or main benefits for both the integration and the regional development of the geoeconomic spaces involved. The strategic function has to do with the direct linkage of the Project Group to the specific territorial aspects of its area of influence and to the strategic vision of the pertinent Hub.

Anchor Projects. An anchor project gives meaning to the grouping of projects and makes synergies viable. It is identified as the bottleneck or missing link in the infrastructure network hindering the optimum use of the combined effects of the Group for the sake of economic and social development. It is not necessarily the largest-sized project or the one with the highest estimated investment amount.

Hinge Projects. A hinge project articulates two or more Hubs, plays a role in more than one Hub, or articulates two or more Project Groups within one Hub.

The second phase consisted in defining a structure of factors of analysis to grasp the attributes of each Project Group in terms of their impact on regional integration and development and the feasibility conditions for implementation. On the basis of these two dimensions, an assessment was conducted in order to establish investment priorities.

- Coordinate and incorporate economic, social and environmental development initiatives and policies into the Integration and Development Hubs that are complementary to the integration infrastructure projects identified;

The first stage of the application of the Indicative Territorial Planning Methodology took place during 2003 and 2004, and resulted in the set up and structuring of the Project Portfolio with a regional vision integrating the national visions.

The second stage of the application of the Indicative Territorial Planning Methodology (2005-2010) was launched in 2006 with the approval of an action plan designed to take a qualitative leap forward in the Project Portfolio and the territorial planning process.

³ See <http://www.iirsa.org/mpti.asp>

With the creation of COSIPLAN, this work is given continuity and the use and dissemination of these tools and methodologies are broadened. One of the objectives of the Strategic Action Plan (PAE) 2012-2022 is to improve, disseminate and implement Territorial Planning methodologies and tools.

- Enhance the technical support of the Portfolio Project Groups by gaining greater knowledge about the economic, social and environmental situation of the territory and the likely impact of the infrastructure projects on sustainable development (potential for production integration, socio-environmental impacts, etc.);
- Improve the capacity for formulating, preparing and assessing integration projects in order to strengthen their inherent quality.

In this regard, training workshops on physical integration topics targeted for the national teams were held,⁽⁴⁾ and non-reimbursable funds for pre-investment studies were created.⁽⁵⁾ Likewise, new territorial planning methodologies⁽⁶⁾ and analytical tools⁽⁷⁾ were developed, particularly the following: the Production Integration and Logistics (IPrLg) Methodology,⁽⁸⁾ the Strategic Environmental and Social Evaluation (EASE) Methodology,⁽⁹⁾ and the Project Portfolio Database (at present, the COSIPLAN Project Information System – SIP).

Currently, the activities underway make further progress and new instruments are introduced to strengthen and enrich the South American infrastructure sustainable planning process, such as the Integration Territorial Programs,⁽¹⁰⁾ the Methodology for the Incorporation of Disaster Risk Management in Regional Integration Infrastructure Projects,⁽¹¹⁾ the COSIPLAN Project Information System (SIP),⁽¹²⁾ and the COSIPLAN Geo-referenced Information System (GIS).⁽¹³⁾

Both the methodologies and the tools mentioned are incorporated into the PAE. The COSIPLAN annual work plans include activities to work on the enhancement and application of each of them:

Integration Territorial Programs. The objective of the PTIs is to identify and implement a set of actions complementing the API projects in order to leverage their impact on the development of the territories involved, taking into account economic, social and environmental aspects.

Strategic Environmental and Social Evaluation Methodology. The purpose of this methodology is to identify any complementary action that might enhance —from a social, environmental and cultural point of view— the positive effects of projects and minimize their negative impact. The unit of analysis of this methodology is the area of influence of the Portfolio Project Groups or the API projects.

Production Integration and Logistics Methodology. The objective of this methodology is to assess the potential for production integration and for the development of logistics in the area of influence of a Project

⁴ Training Workshops on Physical Integration: (i) Course on Integration and Development of Regional Infrastructure in South America, October 2008 (<http://www.iirsa.org/Event/Detail?Id=122>); and (ii) Training Workshop on Integration and Development of South American Regional Infrastructure, September 2009 (<http://www.iirsa.org/Event/Detail?Id=136>)

⁵ The IDB, CAF and FONPLATA earmarked specific line items for pre-investment studies for physical integration projects, with special emphasis on the Portfolio projects.

⁶ These methodologies aim at incorporating environmental, social, production integration, logistics, disaster risk management, legal and regulatory aspects, among others, to the project planning process.

⁷ These tools are intended to support and facilitate the analysis of the territory through the standardization of project information.

⁸ See <http://www.iirsa.org/iprlg.asp>

⁹ See <http://www.iirsa.org/ease.asp>

¹⁰ See <http://www.iirsa.org/pti.asp>

¹¹ See <http://www.iirsa.org/grd.asp>

¹² See <http://www.iirsa.org/sip.asp>

¹³ See <http://www.iirsa.org/sig.asp>

Group or of an API project. Its final outcome helps articulate a set of actions within the framework of a logic of interdependent relations in order to leverage the impact of infrastructure on the development of these activities.

Methodology for the Incorporation of Disaster Risk Management. The objective of this methodology is to prevent or reduce the effects of natural disasters (earthquakes, tsunamis, floods, and volcanic eruptions) affecting South American infrastructure, and to devise plans for connectivity and public infrastructure recovery.

4.3. The COSIPLAN Project Information System

The **Project Information System (SIP)** is the tool to support integration infrastructure planning and analysis containing systematized information on the COSIPLAN projects. This instrument enables the user to access the information on each project file (general data, scope, cost and financing, status, etc.) and create reports based on the query criteria selected.

The information in each project file is kept updated by one responsible person per country or countries, depending on the geographical scope of each project.⁽¹⁴⁾

The first version of this database was built in **2004**. Later, between **2007** and 2010, important improvements were introduced into this IT tool, and the project files were regularly reviewed for information consistency.

In **2011**, the countries approved the Integration Priority Projects Agenda (API), which is made up of a subset of COSIPLAN Portfolio projects. In order to record the progress made in the implementation of the API projects, it became necessary to add two new components associated with the database: (i) a module to consolidate the information on the API projects, and (ii) a Continuous Monitoring System (CMS) for these projects.

To incorporate these new instruments, technical and programming adjustments had to be made to the platform in place. In this context, in **2013**,⁽¹⁵⁾ the SIP⁽¹⁶⁾ was developed, made up of three components connected online to both access and upload the information.

COSIPLAN Project Portfolio Database. It contains the files of each Portfolio project (known as “individual projects” for the purposes of the system) with general information organized into modules. This database enables the user to make queries and create reports based on the query criteria selected. Each project file is kept updated by one responsible person per country or countries, depending on the geographical scope of the project.

API Project Database. This contains the files of the 31 API structured projects. The information in these files is organized similarly to the data in the individual project files. Both the structured and individual project files are linked to one another. Furthermore, this database includes a series of reports on the Agenda.

With the aim of consolidating the Project Portfolio, the PAE provides for the continuous update of the projects included in the Portfolio. One of the key tools for this update and to ensure project information quality as well as its dissemination is the COSIPLAN Project Information System.

¹⁴ National, binational or multinational projects.

¹⁵ GTE Meeting on API and the CMS, August 27 and 28, 2013, Rio de Janeiro, Brazil. See <http://iirsa.org/Event/Detail?Id=227>

¹⁶ See <http://www.iirsa.org/proyectos/>

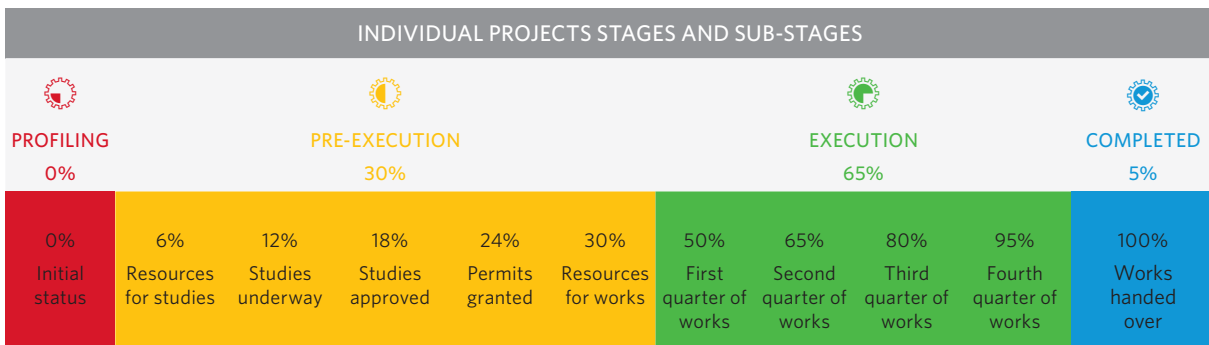
Continuous Monitoring System (CMS). The CMS is a module in the project files, created on the basis of the Methodology for Scheduling the Life Cycle of Projects, a tool that follows up on the progress of the projects throughout their life cycle. This module controls the progress of each COSIPLAN Portfolio project as well as of the API structured projects by monitoring the individual projects that make them up.

As mentioned in the paragraph above, with the purpose of recording the status and progress over time of the API projects, the **Life Cycle Scheduling Methodology** for the API individual projects⁽¹⁷⁾ —which is the methodology on which the CMS is based— was developed between **2012** and **2013**.

The **Life Cycle Scheduling Methodology** is based on the four project life cycle stages agreed upon by the governments in 2008: profiling, pre-execution, execution and completed.

Given the technical characteristics of the projects and the works involved, the pre-execution and execution stages of a project are the ones that take up most of the time in the project life cycle. This is why both stages were further broken down, in order to see the progress of a project more accurately.

PROJECT LIFE CYCLE SCHEDULING



Profiling. This is the starting point in the project life cycle.

Pre-Execution. Normally, this stage involves studies (pre-feasibility, feasibility and investment), permits of various kinds (environmental, jurisdictional and others), and resource mobilization from various sources to finance the works and other actions that precede the execution of the physical works. Five main milestones are identified:

- *Resources for studies.* This sub-stage starts with the formalities required to secure the financial resources needed to carry out the studies, and is deemed completed when such resources are actually available and all the institutional arrangements for the studies to begin (e.g. awarding them through tender processes) have been made.
- *Studies underway.* This sub-stage is deemed to start when any pre-execution study has been launched, and the project will be recorded as such until completion of the study representing the highest level required by the project concerned.

¹⁷ For more information on the development of the API Project Life Cycle Scheduling Methodology, see the “CMS Progress Report 2012” at <http://www.iirsa.org/Document/Detail?id=3416>, and “API Progress Report 2013” at <http://www.iirsa.org/Document/Detail?id=3718>

- *Studies approved.* Once the studies have been completed, the project passes on to this sub-stage, and will remain at it until the studies are approved by the relevant authorities.
- *Permits granted.* After the studies are approved, the project must comply with institutional requirements and regulations, which take the form of permits and authorizations that may be of different nature and impose different requirements and deadlines. Thus, for example, different kinds of environmental licenses for engineering works and installation of the work site may be required. Furthermore, submitting the background information required for a permit to be granted may demand some degree of interaction with the studies conducted in the previous sub-stage. This sub-stage will be deemed completed when all permits have been granted or all the institutional formalities required by the project have been carried out.
- *Resources for works.* This sub-stage involves securing the financial resources needed to carry out the works and actions proposed in the project. It will be deemed completed when the project has been allocated the financial resources for executing the works and the required institutional formalities for such purpose have been carried out.

Execution. This stage has been broken down into quarters of works according to the time frames involved, the costs required or progress milestones, depending on the project concerned.

Completed. A project is deemed completed when the finished works have been handed over to the relevant authorities, and are open and functioning.

In **2014**, the countries carried out specific actions intended to enhance the quality and standardization of the project data, and to better communicate their progress and outcomes. This resulted in the following actions leading to modifications and new tasks in the SIP: (i) organization of the information fields in the project files; (ii) specific descriptors by sector, subsector and type of works; (iii) results indicators for the projects already completed; (iv) application of the Continuous Monitoring System (CMS) to all the Portfolio projects; and (v) API progress indicators.

In **2015**, small adjustments were made to the SIP to improve the performance of the new elements developed the previous year. An advanced search option with new search filters was created, including a new criteria selection methodology. Some information fields in the project files were improved, and new fields were added, such as "Risks and Hazards" and "Estimated Completion Date." Several reports were enhanced and created. The charts were modified, and the API Structured Projects CMS was opened to public access.

In **2016**, a diagnosis was made of quality of the project information contained in the SIP, placing special emphasis on reviewing projects with inconsistent information and on completing any data fields that were empty or included partial information. A review was also made of the projects at the pre-execution stage to detail their progress and current status as accurately as possible so as to facilitate their implementation. Furthermore, the SIP home page was updated to include visualizations and infographics of the projects. An explanatory video of the system was also developed.

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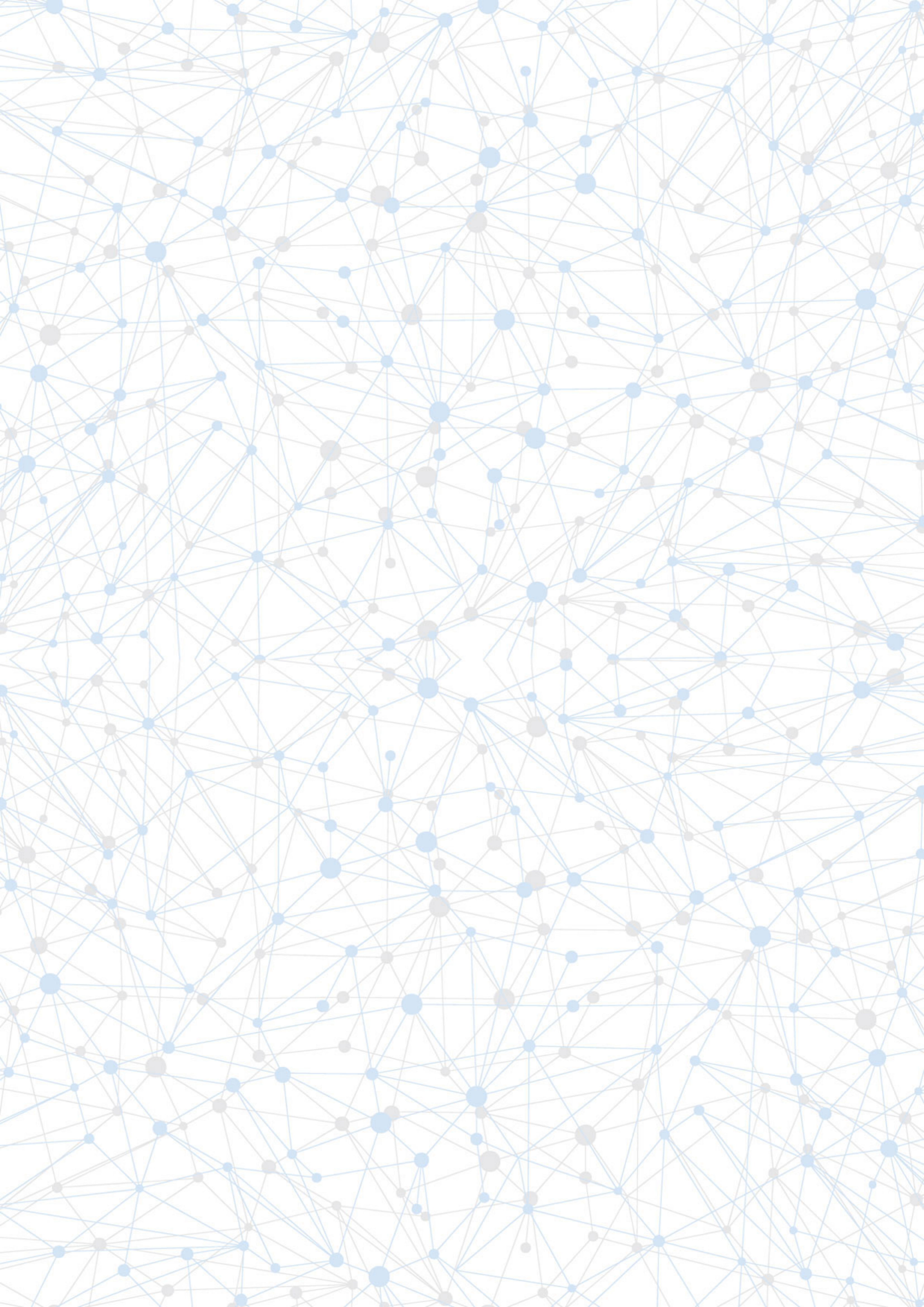
- IIRSA. <<http://www.iirsa.org/>>

Acronyms and Abbreviations

AMA	Amazon Hub
AND	Andean Hub
API	Integration Priority Projects Agenda
AR	Argentina
BO	Bolivia
BR	Brazil
CAF	Development Bank of Latin America
CAP	Capricorn Hub
CCT	Technical Coordination Committee
CEBAF	Binational Border Service Center
CENAF	National Border Service Center
CH	Chile
CMS	Continuous Monitoring System
CO	Colombia
COSIPLAN	South American Infrastructure and Planning Council
DRM	Disaster Risk Management
EASE	Strategic Environmental and Social Evaluation Methodology
EC	Ecuador
FONPLATA	Financial Fund for the Development of the Plata Basin
GDP	Gross Domestic Product
GTE	Executive Technical Group
GU	Guyana
GUY	Guianese Shield Hub
HPP	Paraguay-Paraná Waterway Hub
IDB	Inter-American Development Bank
IIRSA	Initiative for the Integration of Regional Infrastructure in
South America	
IOC	Central Interoceanic Hub
IPRLG	Production Integration and Logistics Methodology
MCC	MERCOSUR-Chile Hub
MERCOSUR	Southern Common Market
PAE	Strategic Action Plan 2012-2022
PBB	Peru-Brazil-Bolivia Hub
PTI	Integration Territorial Program
PY	Paraguay
SIP	COSIPLAN Project Information System
UNASUR	Union of South American Nations
UY	Uruguay
VE	Venezuela

Editorial Coordination and Production
CCT Secretariat

INTAL Institute for the Integration
of Latin America and the Caribbean





**UNASUR
COSIPLAN**

 www.iirsa.org/cosiplan

Technical Coordination Committee



INTAL Institute for the Integration of Latin America and the Caribbean