

## Coca Codo Sinclair conveyor system, Ecuador

# 25 km conveyor belt in the Ecuadorian jungle



The aim of the Coca Codo Sinclair project is to realise a hydroelectric power station with a capacity of up to 1500MW on the Coca River in Ecuador by 2015. The contract is worth a total of USD 1.7 billion. The project will receive 85 % of its finance from China and 15 % from Ecuador. This makes the power plant the most expensive project in the history of Ecuador.

At the heart of the project is a 25 km long headrace tunnel, which will be excavated across the jungle with 2 TBMs. The first tunnel is 14 km long, and the second is 11 km long. Marti Technik AG is responsible for the fully automatic control of the material flow at both galleries, from the TBMs to the temporary dump site. The system was handed over in 2013.

### Overview

Contractor: Sinohydro Corporation Ltd., China  
 Contract total: USD 20 million  
 Belt system built: 2011 – 2013  
 Total output: 3.4 million tonnes  
 Conveyor belt system capacity: 2×1000 t/h  
 Driving power: 3500 kW  
 Belt widths: 1000 mm





## Coca Codo Sinclair conveyor system, Ecuador



### Tunnel excavation

2 Herrenknecht tunnel boring machines  
 Diameter: 8.9 m  
 Gallery 1 length: 14 km  
 Gallery 2 length: 11 km

### Conveyor belt system:

Tunnel conveyor: 1 × 11 km, 1 × 14 km  
 External conveyors: 90 m + 175 m  
 Conveying capacity: 1000 t/h  
 Discharge volume: 2500–4000 m<sup>3</sup>  
 Reversible belt: each 20 m



### Electricity for oil

The People's Republic of China is financing 85 % of the total contract value of USD 1.7 billion in advance. In this way the Ecuadorian government will receive liquid assets for the construction of the new plant. The Ecuadorian government will then repay the loan also in liquid assets over the coming years, but predominantly through oil supplies.

### The conveyor belt system

Two tunnel boring machines will excavate a 25-km-long headrace tunnel in two lots. Marti Technik AG has planned, constructed and installed the tunnel conveyor as well as the external conveyor for the two TBMs. The tunnel conveyor for Gallery 1 measures 14 km, and 11 km in Gallery 2. All the conveyors are 1000 mm wide and have a conveying capacity of 1000 t/h. The length of the external conveyors measures between 70 and 200 m. A reversible conveyor is installed at the end of each of these conveyors in order to make the best use of the dumpsite area. The Marti Technik subsidiary in China has produced a large part of the conveyor belt equipment used in the project, such as the complete belt storage, all the idlers and the EASY material.



**Marti Technik AG**

Lochackerweg 2 | CH-3302 Moosseedorf | Fon +41 31 858 33 88 | Fax +41 31 858 33 89  
 info@martitechnik.com | www.martitechnik.com