



## Hidroituango, making progress in all technical work fronts

- The Project's completion rate now stands at 86.9%, with all efforts focused on starting up the first two power generation units in the second half of 2022
- Substantial progress has been achieved in the recovery of the powerhouse, civil works, and installation of equipment
  - The reservoir and its outflow are permanently monitored by expert personnel with special equipment

**Works' site, Ituango, Antioquia, January 28, 2022** | EPM has not stopped working on reducing risks at the Ituango Hydroelectric Project, on protecting the lives of people downstream from the dam, caring for the environment and technically protecting the future hydroelectric power plant. At the end of 2021, the works completion rate at Hidroituango stood at 86.9%, with progress made on all the work fronts, and all efforts focused on starting up generation of 600 megawatts of electricity in the second half of 2022, with the first two turbines.

Jorge Andrés Carrillo Cardoso, CEO of EPM, said "Hidroituango's power will drive Colombia's development and the improvement of the life quality of millions of households, in addition to being a major player in the region. The Project has invested COP 2.4 billion in the municipalities in its area of influence and is currently offsetting 24,300 hectares of tropical dry forest and rain forests."

### Full speed ahead

The Ituango Hydroelectric Project started out the year recharged, with its sights set on the goal of beginning to generate power in the second half of the year. The Project currently has 7,800 employees distributed among the various work fronts. The high percentage of completion is a major achievement, considering that at this time the main works are focused on the key Project sites, both above ground and in the underground power station.

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The following is the progress at Hidroituango:

## 1. Powerhouse

The Powerhouse, which will contain the power generation units, is the site that has undergone the greatest transformation in terms of recovery and construction progress.

### Highlights on this front

- ✓ **Power Unit 1:** Civil works were completed, and work has begun on installation of electro-mechanical equipment and control and installation of all ancillary services.
- ✓ **Power Unit 2:** Final casting of concrete is currently underway. It is estimated that the height of 217 m.a.s.l. will be reached in one month, which is the level where unit 1 is located, with leveling work currently underway to continue installing all the equipment needed to start up the unit in the second half of 2022.
- ✓ **Units 3 and 4:** Civil works are on schedule according to the timetable for installation of the spiral casings and stationary rings.
- ✓ **Units 5, 6, 7 and 8:** The southern wing of the powerhouse was temporarily adapted to store the over-sized equipment as it arrives, and other units are being installed at the site, including the two rotors of the first two units, the stator of unit one, among others, and which will soon be moved to the north wing of the cave for installation.

## 2. Pressure or vertical wells

The main purpose of these tunnels is to transfer water from the reservoir to the powerhouse in order to generate power.

### Highlights on this front

- ✓ The metal shielding of the first three wells is being worked on simultaneously (there are eight wells in total). Each well is 134 meters long. They consist of shielding of 70 hoops and are expected to be completed by the first half of 2022.

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### 3. Surge Tank 1

This is where the water settles following the power generation process. The water loses strength and speed in the channel to then return to the normal flow of the Cauca River.

#### Highlights on this front

- ✓ Civil works have made substantial progress in this area, which was impacted during the contingency that took place in April 2018. The plan is to begin to install the floodgates, which will enable greater control over this area and to have this front completed by mid-2022.

### 4. Underwater works

These works will be carried out in two stages by specialist divers at a depth of 50 meters in the reservoir. The aim is to rehabilitate or recover the hydraulic conditions of intake tunnels 1 through 4, through which the water from the reservoir is sent to the turbines in the powerhouse to generate power.

#### Highlights on this front

- ✓ The first exploratory phase has been completed to collect the data required to design and manufacture the floodgates or bulkheads to be installed at this site.
- ✓ These second phase of these works is expected to begin next March, once all the equipment arrives at the main work sites, with the aim of completing the works by year-end 2022.

### 5. Auxiliary Diversion Tunnel (ADT)

In 2019, due to the contingency, the two floodgates installed in this tunnel, each one of which weighs 300 tons, were closed to prevent the outflow of water.

#### Highlights on this front

- ✓ Recently, access to the Auxiliary Diversion Tunnel was achieved, which is a highly significant in terms of the recovery of the Project and for the peace of mind of the communities located downstream from the dam.





- ✓ After pumping out the water in this area, sufficient personnel and machinery were able to enter the site to begin to clean it out, removing and extracting debris and mud.
- ✓ Following the adaptation and clean-up works at the ADT, two final 22-meter plugs that are required at the site will be built.

## 6. Dam

This structure, which is 225 meters tall with a volume of 20 million cubic meters, is located upstream at the location where the Ituango River merges into the Cauca River, and its function is to contain the water in the reservoir.

### Highlights on this front

- ✓ The dam remains stable and is monitored 24/7, 365 days per year, by expert personnel at EPM's Technical Monitoring Center (CMT for the Spanish original).

## 7. Spillway

The spillway is a hydraulic structure that enables the free or controlled outflow of the water from the reservoir. The open channel type outflow at Hidroituango is controlled by four floodgates.

### Highlights on this front

- ✓ The outflow is operating normally and is constantly monitored by expert personnel with special equipment at EPM's Technical Monitoring Center (CMT).
- ✓ In recent days the left channel was inspected and found to be in optimal conditions.
- ✓ Maintenance was performed on the left channel, consisting in the application of resins, after which it will be put back into service.
- ✓ The right channel will be inspected within the next few days.

This is the progress achieved by Hidroituango, with the objective is generating well-being and development for Colombians and to contribute to the stability of the country's electricity system, because Hidroituango is energy that represents progress for all.





# Press Release



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