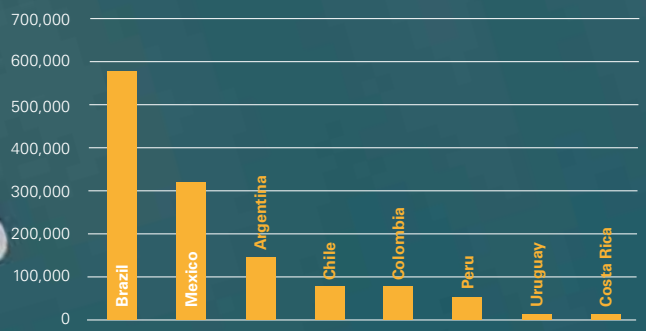
POWER GENERATION IN LATIN AMERICA

Many countries in Latin America are heavily reliant on hydroelectric dams for their electricity supply. This creates a potential supply vulnerability with the region particularly exposed to tectonic hazards and natural weather phenomena. How can firms better prepare for these catastrophic incidents, so that they minimise supply interruption?

According to the 2016 data published by the International Energy Agency (IEA) Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, Peru and Uruguay are largest producers of electricity in Latin America (see below). With the exception of Argentina and Mexico, the rest depend on hydroelectric power generation to meet electricity demand.



Electricity Generation Capacity (MWh) - 2016 (source: IEA)

This demand is increasing as the middle class grows and purchases more electrical appliances and countries invest in energy intensive industries. Forecasts suggest that consumption could rise by more than 70 percent by 2030. Latin America already has one of the largest shares of renewable energy of any region in the world, but more than 80 percent of its renewable energy currently comes from large hydroelectric dams.

Whilst the hydroelectric share is likely to reduce as other forms of renewable energy grow, notably wind and solar, countries will still be heavily reliant on hydroelectric power to 'keep the lights on'. This creates a potential supply vulnerability with Latin America being particularly exposed to tectonic hazards and natural weather phenomena, such as El Niño, causing floods, droughts, hurricanes, mud slides, tsunamis, etc., and which are arguably being exacerbated by climate change.

A good example of potential supply interruption occurred in Colombia in 2016, when emergency energy saving measures were imposed to avoid blackouts after a major drought. That same year, Venezuela experienced a drought that dried up the supply of water for the main generation basin in the Caroni River.

Domingo Salerno, Senior Executive Adjuster, with Integra Technical Services suggests "the region has to address specific challenges to ensure that power generation businesses can quickly recover from catastrophic incidents and minimise business interruption."
He suggests a four-phase plan:

1. It starts at the design stage, ensuring that the engineering firms that design and build new power generation plants have access to climatological, geological and hydrology data. A lack of this type of data analysis has been the root cause of several catastrophic failures during construction or shortly after commissioning and handover. Examples include the collapse of underground tunnels, dams, and penstock, and landslides caused by heavy rain that washes away machinery installed in the powerhouse of a hydroelectric plant.

2. When placing the insurance, the Insured should leverage the knowledge and experience of the (Re)Insurer, Broker, Appointed Loss Adjuster and OEM to help them develop more robust business continuity plans.

3. Investing in building a wider pool of local technicians and workshops near the power generation plants to reduce the time required to carry out temporary or permanent repairs, effectively reducing the Property Damage claim and mitigating the time element for Business Interruption losses.

4. Appointing a Loss Adjuster at the pre-loss stage that can build knowledge of the power generation plant and who has experience dealing with the sector and in the region. Factors that increase the complexity of the loss and where the Loss Adjuster can add value include: understanding the Service Agreements with the OEM; comparing repair and replacement costs and looking at second hand options (see Case Example); availability of specialised local labour to perform repairs on site (see Case Example) or to replace the equipment versus the use of foreign technicians; and mobilising expert consultants to assess the damages.

CASE EXAMPLES:

Mitigating the loss

There had been a fire at a hydropower generation plant in Mexico and the Insured was facing a potential downtime of 283 days, the time it would have taken to purchase, build, transport, install and commission a replacement generator. The potential Business Interruption loss amounted to USD55.187 million.

Working with the Insured's team and the OEM, Integra Technical Services sourced a temporary 'used' generator in Houston, Texas. The cost of purchasing, testing, transporting, retrofitting and then dismantling this temporary generator amounted to USD12.5 million. But this reduced the Business Interruption to less than 85 days and a total Insured loss of USD29 million, a saving of over USD26 million.

Loss Adjuster Network

A power generation plant in Bolivia located 4,000 meters above sea level was facing a dilemma following an insured loss. They needed to repair mechanical and electrical equipment but technicians and workshops in the locality of the loss didn't have the tools and equipment to carry out the repairs, nor the technicians approved by the OEM. It seemed the only option was to transport the damaged items to workshops in Santa Cruz, Bolivia and Miami in Florida.

'Integra Technical Services' Loss Adjusters have settled numerous claims throughout Latin America and thanks to their contacts in the region, the Property Damage and Business Interruption losses were significantly reduced by locating an approved contractor in Medellin, Colombia, who had the experience, technicians and tools needed for performing onsite repairs.