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Chachimbiro PEC-1, first deep geothermal exploration well in Ecuador

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Drilling is the breaking-inertia experience that every geothermal project is looking for. All the surface exploration and conceptual models are confirmed or discarded by wells. The first well in Ecuador represents so far the most important milestone in its road to develop geothermal electricity. PEC-1 encountered commercial temperatures and was drilled to a depth of 1978m in 2017, through Japanese Cooperation to the National Utility CELEC EP, representing a totally ground breaking experience for Ecuador.

Chachimbiro project was studied since 80´s when INECEL collected information and classified some of the geothermal projects until the geothermal department was closed in the 90´s. The former Ministry of Electricity and Renewable Energies in 2011 appointed CELEC EP to develop geothermal projects. In 2011 to 2012 a complete surface exploration took place. The drilling stage took some years and many complications in technical, political, financial and legal aspects. In addition, even though Ecuador is a producer of oil, the availability of equipment and experience had to be complemented to reach the first geothermal well.

PEC-1 is analysed in all its aspects as: financing, logistics, equipment search, procurement, institutions, local capacity building, results, social and environmental that were involved to accomplish the target. Geothermal development is quite complex, and feedback plays a key role for the next steps. A set of lessons learned in each aspect are presented to finalize in recommendations that could be considered for the next stage and for any other starter country on the geothermal community.