

CELEC EP

Corporación Eléctrica del Ecuador

.....Juntos por un Ecuador lleno de Energía

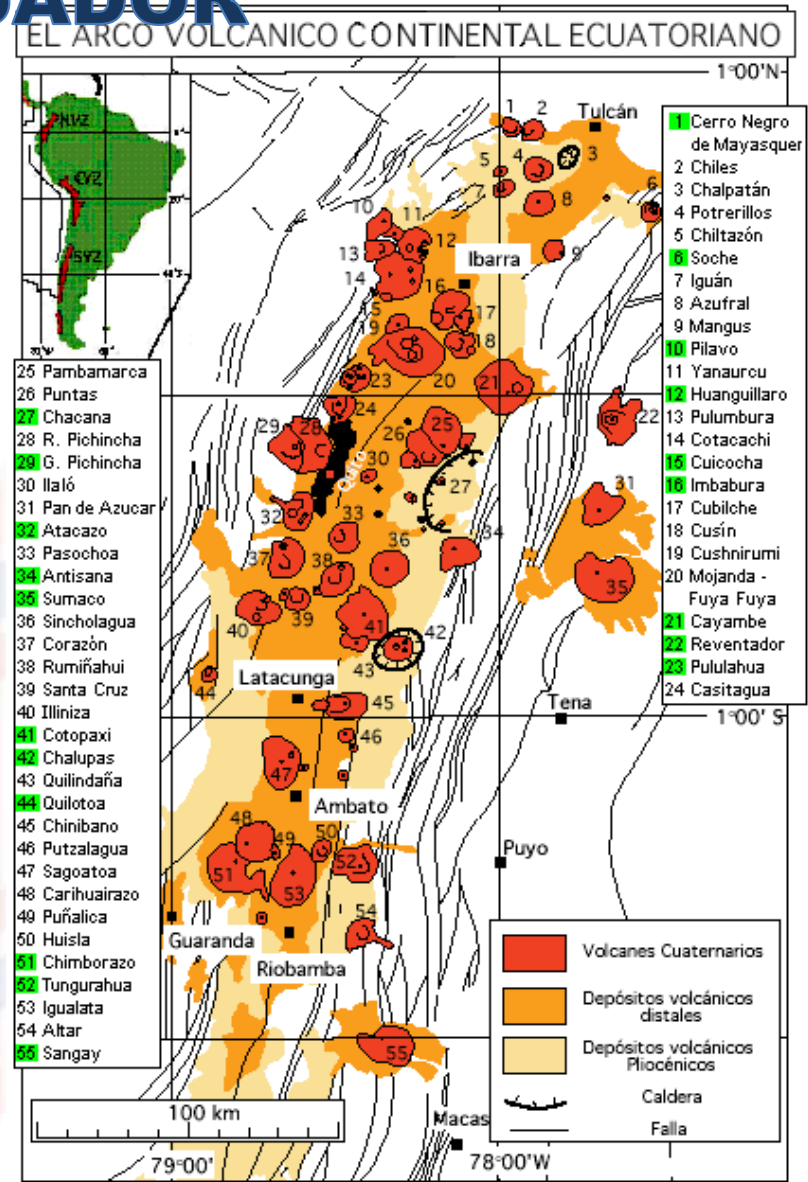


GEOHERMAL DEVELOPEMENT IN ECUADOR

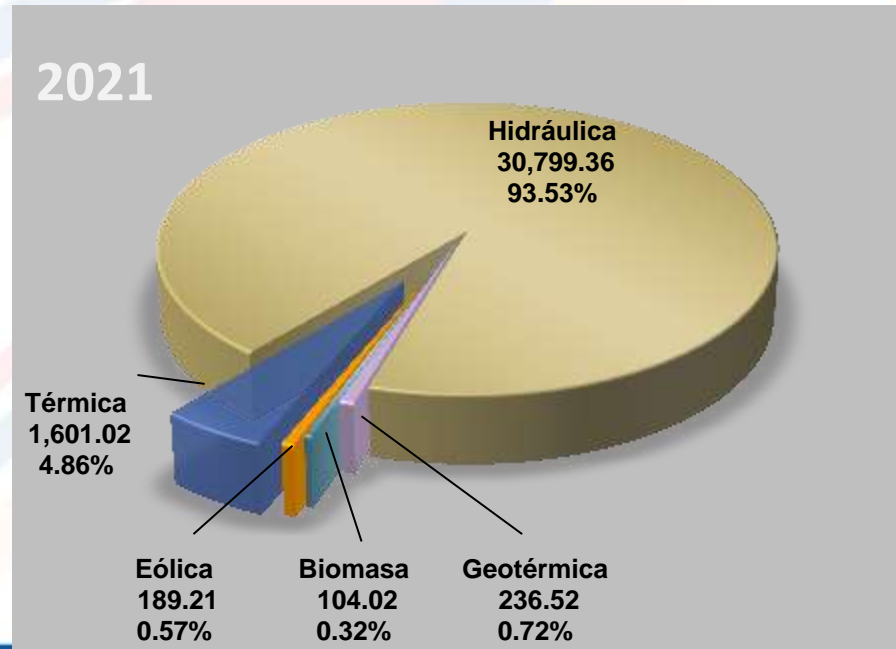
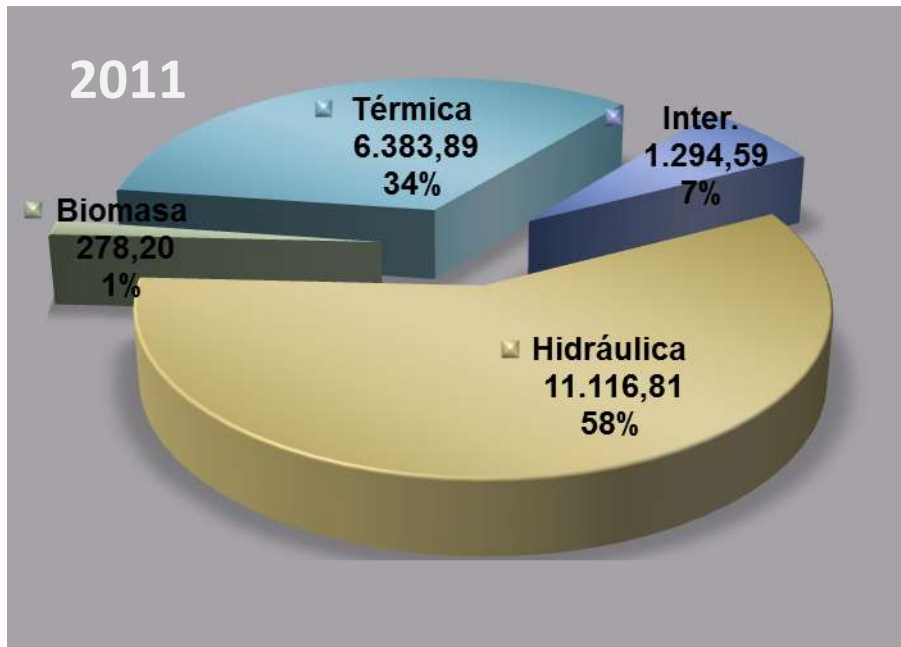
Quito, May 2014

GEOHERMAL DEVELOPMENT IN ECUADOR

More than 40 active volcanoes represent a high potential in Ecuador



CHANGE OF THE ENERGY MATRIX






35 YEARS...

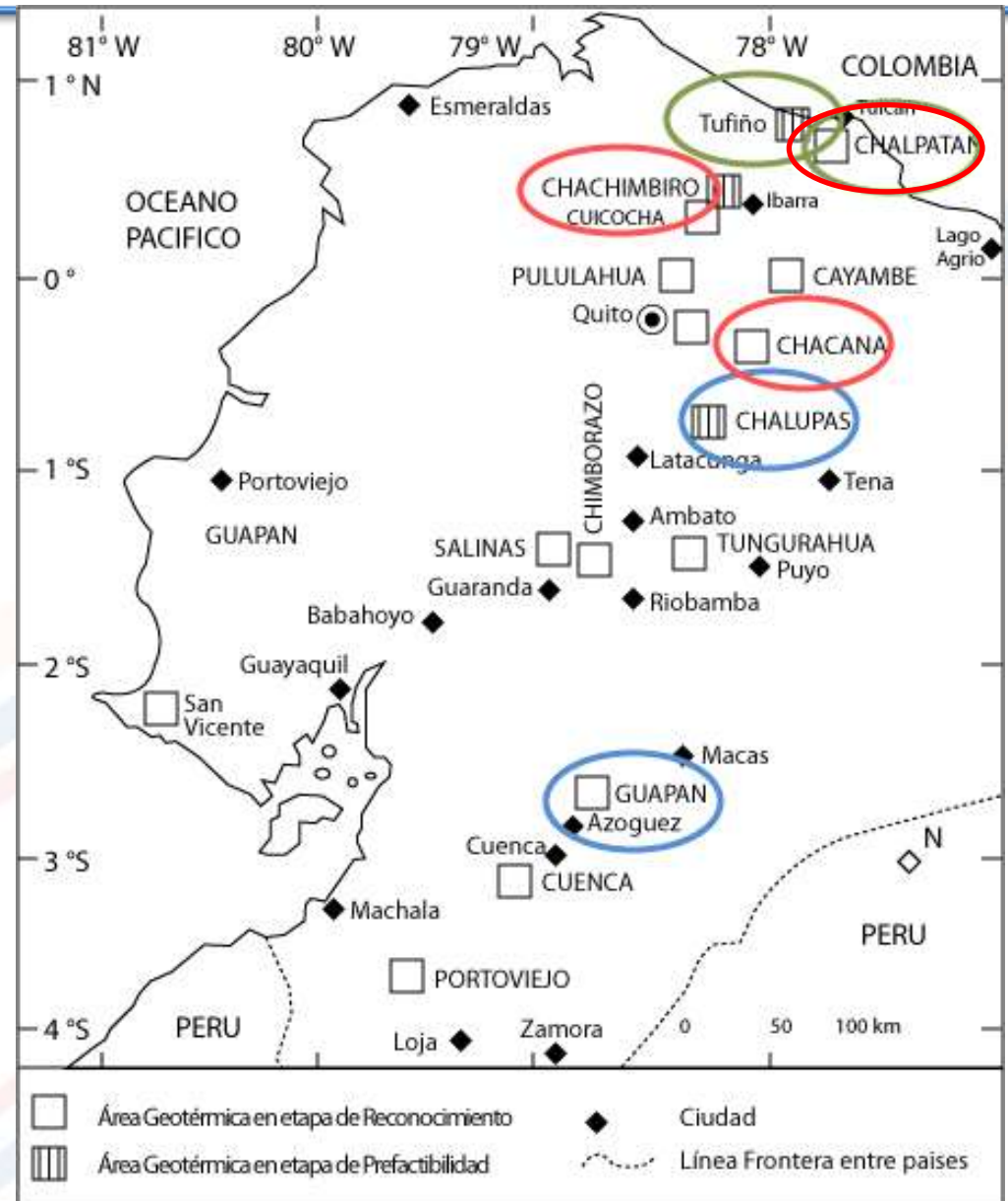
1978 - 1992:
INECEL, the
International
Atomic Energy
Agency (IAEA) and
OLADE executed
studies in certain
geothermal areas

2008: Mandate 15:
Government will
invest in strategic
sectors (energy, oil,
etc.)

2010: August 27th,
MEER - Ministry of
Electricity and
Renewable Energy
delegated to CELEC
EP to develop
Geothermal
projects

GEOHERMAL PROJECTS

-  Pre- feasibility studies (surface research)
-  Ongoing Pre- feasibility studies
-  Prefeasibility studies will begin soon



STUDIED PROJECTS



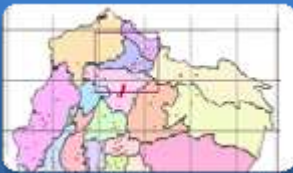
CHACANA: JAMANCO

- 3.3 – 26 MW
- Initial Prefeasibility (geosciences)



CHACANA CACHIYACU

- 7.6 – 83 MW
- Initial Prefeasibility (geosciences)



CHACHIMBIRO

- 13 – 178 MW
- Initial Prefeasibility (geosciences)



BINACIONAL TUFIÑO – CHILES – CERRO NEGRO

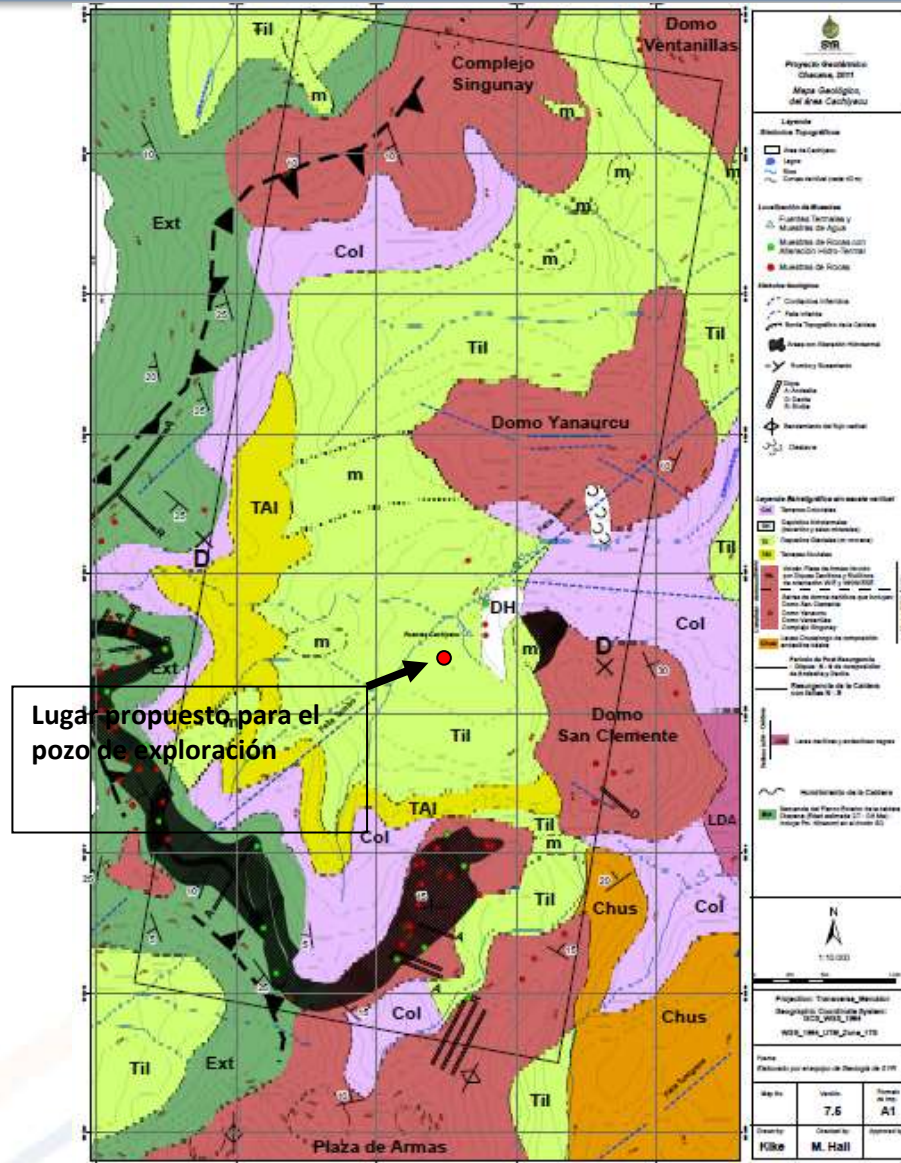
- 22 – 330 MW
- Prefeasibility in process



CHALPATÁN

- Medium and low enthalpy project
- Initial Prefeasibility studies (geosciences)

CHACANA



Next stage (sep 2014) involves drilling slim holes to feedback the conceptual model, reduce risk and design the next exploration stage: feasibility. Ecuador is interested that JICA finance feasibility and next stages of the project.



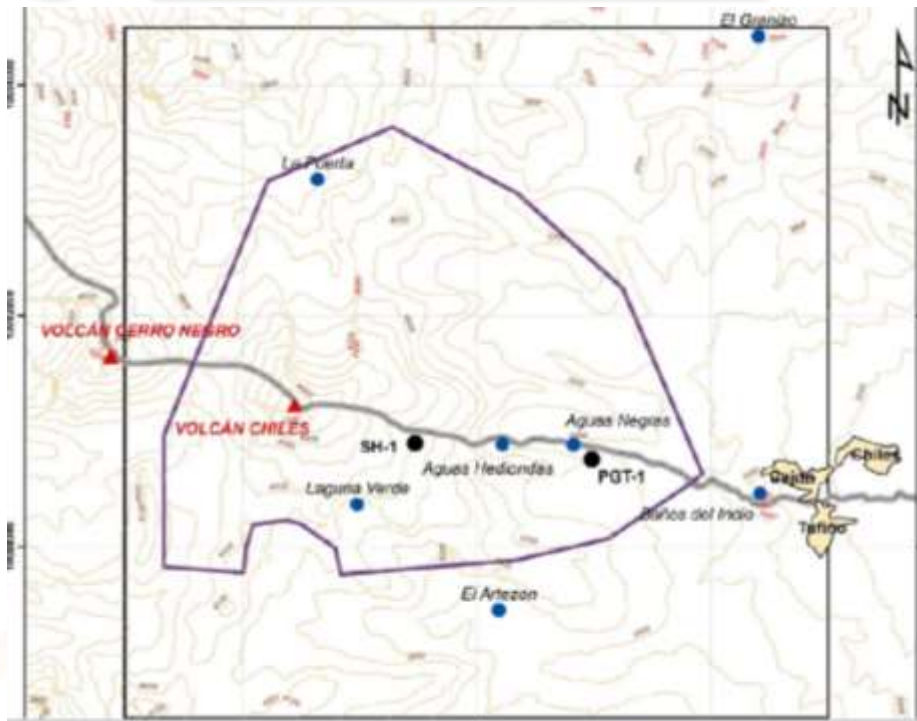
PROYECTO GEOTÉRMICO BINACIONAL TUPIÑO- CHILES – CERRO NEGRO



Binational agreement: July 2010



Agreement ISAGEN (Colombia) – CELEC (Ecuador) to develop PREFEASIBILITY: April 2011



CELEC EP and ISAGEN are working in **complementary studies** that involve **geophysics and geochemistry survey** to update the **geothermal model**. After that, it is going to **drill exploration slim holes to fully constrain the reservoir size** and finalize the prefeasibility. This should allow lessening the risk in choosing drilling targets for the next exploration stage.





Thank your for your attention