CHARGING INFRAESTRUCTURE: POWER STATIONS.		
Sector	Ministry of Mines and Energy	
Thematic axis/sub-sector	Energy	
Entities/Areas	Ministry of Mines and Energy (MME), Fund for Unconventional Energies and Efficient Energy Management (FENOGE)	
National development plan strategy, which aims to	• Just energy transition. • National strategy for the deployment of charging infrastructure.	
ODS to which it points	7. Affordable and non-polluting energy. 11. Sustainable cities and communities. 13. Climate action.	
Description of the Project	Purpose of the project	Search for public, private and public-private financing to deploy the infrastructure for charging electric vehicles by facilitating an interconnected and interoperable network of power stations in the national territory.
	Objectives	- **General Objective:** - Effective deployment of charging infrastructure in the national territory, implementing a novel model of power stations, which allows financial closure, as well as the generation of profit given the use of renewable and non-conventional energy sources (FNCER), through the sale of energy and/or surplus. - **Specific objectives:** - Accelerate the strategic deployment of electric charging infrastructure and its value chain as an interconnected and interoperable network of power stations. - Effectively reduce greenhouse gas emissions from the transportation sector through electromobility. - Diversify the hydrocarbon market to FNCER, as well as promote new energy sources (hydrogen, LNG, etc.). - Encourage innovation in new charging technologies and new revenue and business models (e.g. sale of surplus energy to the grid during hours when vehicles are not charging). - Boost economic development through green jobs. - New development opportunities for popular economies: service offerings, gastronomic offerings, handicrafts and promotion of local markets.

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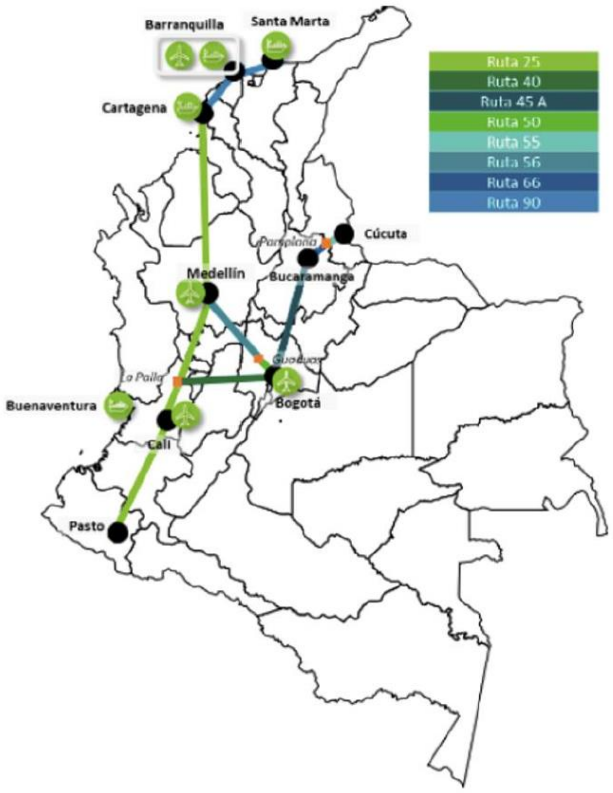
	Geographical area of influence	At the national level: Routes and vehicular transit hubs. At the territorial level: municipalities and cities.  Prioritizing major cities, however, other routes nationwide are also taken into account.
	Included within the DND goals are:	Yes _x_ No__
	The Structuring Phase	**Technical structuring: Checklist** - Identification and structuring of financing mechanisms and business models: Checklist **In progress:** - Implementation of pilot project of 2 power stations. - Regulatory agenda for standardization of electromobility components. - Publication of “Strategy for the deployment of charging infrastructure”.
	Target: (km),	+100 Power Stations by 2024 +20,000 connectors ~ approx. 7000 stations by 2030

<table>
<tr><th colspan="3">CHARGING INFRAESTRUCTURE: POWER STATIONS.</th></tr>
<tr><td></td><td>(panels etc.)</td><td>600,000 electric vehicles by 2030</td></tr>
<tr><td></td><td>Located in a protected area or with indigenous communities/ afro-descendants:</td><td>Yes___ No_x__ Which_____</td></tr>
<tr><td>Duration by Phases</td><td colspan="2">Technical, environmental and economic structuring: Checklist.
Current phase: Search for financing and implementation.

Investment packages:

Unit cost for station:

*$300 MILLION COP ~ $75,000 USD.

Includes: Power station (3 fast charging connectors), with photovoltaic generation with solar panels in “carports” for 3 vehicles.

Investment packages, given the amount of impact or investment points:
Starter Package : (1) power station - Approx. $300 MCOP (75,000 USD).
Small Business Package: Less than 10 - Approx. $3,000 MCOP (750,000 USD)
Green Business Package: Between 10 and 50 - Approx. $15,000 MCOP (~3.6 MUSD)
Gold Business Package: More than 50, from $1500 MCOP (> 3.6 MUDS)

*Plot not included: agreement with current gas station owners is in place.

Forms of participation:

Equity investment, joint ventures, public-private partnerships, sector companies and companies from other sectors.</td></tr>
<tr><td rowspan="4">Contributions</td><td>Total value</td><td>$</td></tr>
<tr><td>Nation Contribution</td><td>$</td></tr>
<tr><td>Contribution of Territorial Entities</td><td>$</td></tr>
<tr><td>Private Contribution</td><td>$</td></tr>
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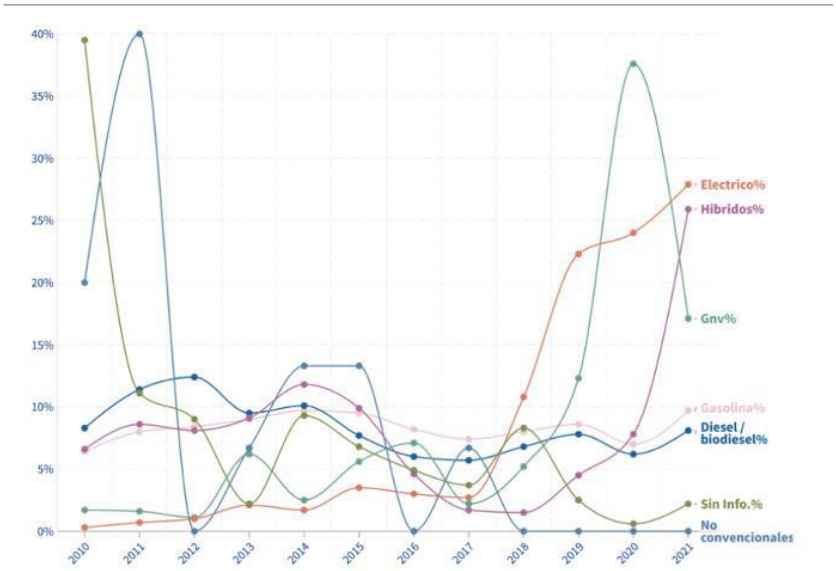
Opportunity to Investment	- Financial model with closing of less than 5 years. - Financial model with profit generation. - Legal certainty accompanied by a regulatory agenda of MME for the standardization and regulation of electromobility components. - Reindustrialization of conventional service stations (from hydrocarbons to FNCER). - Generation of green jobs and promotion of national industry. - Tax benefits: tax incentives, subsidies, financing agreements. - Opportunity to enter growing markets with high demand for clean energy and sustainability, portfolio diversification, incorporating an expanding sector. - Increased sales and customer demand at the implementation site and nearby locations, popular economies, industry and commerce.
Market analysis	- The 2023 figures on the growth of the electric vehicle fleet and the projections of the Ministry of Mines and Energy on the growth of the electric vehicle fleet in the country by 2030, show that there will be approximately one million electric vehicles circulating in the country. - The Roadmap for a Just Energy Transition of the Ministry of Energy projects approximately one and a half million electric vehicles by 2030, and an increase in incentives is expected for both the value chain of zero emission vehicles and electric charging infrastructure, aimed at boosting the national automotive, auto parts and electric industry. - The evolution of vehicle fleet energy shows a growing trend of low and zero-emission vehicles.  Source: Ministry of Transport, MinTransporte, Transpor in figures. **Cities with a culture focused on electric mobility:**

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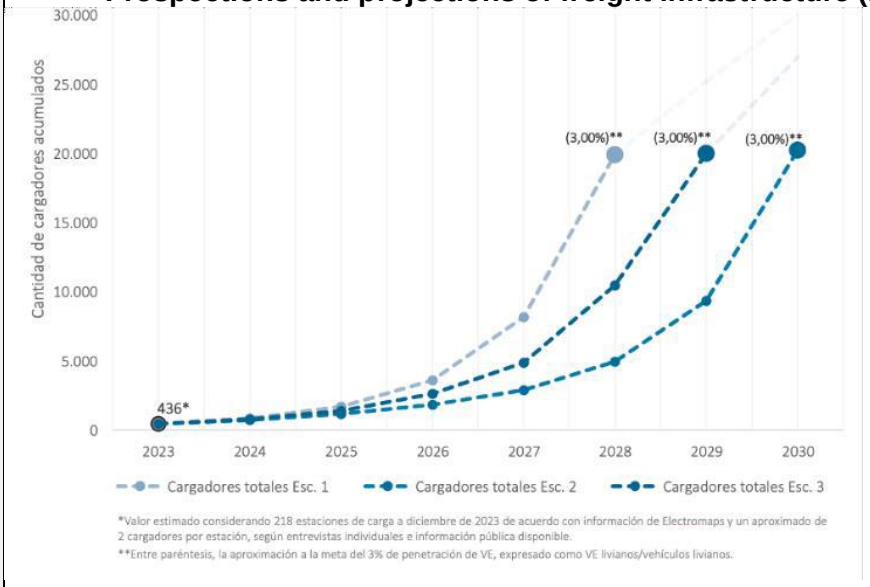
	- Bogota: 594 electric buses 10% of the SITP fleet, 16 charging stations with 39 connectors of different types, 43 electric cabs. Decree 493 of 2023 Sustainable and Safe Mobility Plan PMSS. - Medellín: Metro company 84 electric buses, 5 charging stations with 19 connectors of different types, 200 quotas to be replaced by electromobility. - Cali: 187 electric buses 10% of the current fleet. - Similarly, the following cities also have plans for chargers and different alternatives in this transition: Barranquilla, Cartagena, Pereira, Ibagué, Montería, Tunja, among others. **Prospections and projections of freight infrastructure (by scenarios):**  Source: Consultoría MinEnergía con Banco Mundial-Deloitte, 2024.
Financial Projections	**Projections for a power station, applied to scale in the different packages.** - Investments from: $300 MILLION COP - IRR: 24%. - VPN: 150 MILLION COP - Estimated payback period: 4 years - Expected profitability: Operating profitability and return on investment. *Approx. value of 1 fast charging station with panels is COP $300 MILLION - includes charging infrastructure and solar panels.

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Sustainability and ESG considerations	**- Economic:** Investment with profitability over time, boosting the value chain, new commercial alliances, transition from markets currently dependent on hydrocarbons to energy markets with the potential to take advantage of renewable sources and new income models that complement current models and gradually generate the adoption of mechanisms that incorporate innovative business models into the income matrix and the national energy supply matrix. **- Environmental:** Zero-emission mobility, charging infrastructure projects can contribute to recycling initiatives and safe disposal of electric vehicle batteries. **- Social and cultural:** Improved quality of life, Promotion of popular economies and new commercial alliances, the design and strategic location of charging stations can minimize their impact on the local environment, Education and awareness initiatives with academia, Generation of sustainable jobs during the construction, operation and maintenance of charging stations. **- Energy:** Diversification and commercialization of renewable energies, Integration of FNCER to new charging infrastructures. **- Mobility:** Boosting sales of electric and low-emission vehicles and retrofitting to electric vehicles. **- Technical:** Collaboration with regulators, energy communities to achieve a sustainable and equitable approach.
Risk Assessment and Mitigation	- **Demand:** Alliances were established with public and private entities to increase demand. - Strengthen the culture towards electromobility. - **Obsolete technology:** There is an analysis of trends and advances in electric vehicle charging station technology. - **Operation and maintenance:** Carry out a preventive maintenance plan, train personnel in safety procedures, develop emergency plans to respond to incidents, implement real-time monitoring systems. **- Regulatory:** Keeping up to date with regulations and adaptations to changes in public energy policy. **- Social:** Maintaining open communication channels with communities.
Project Team and Experience	

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Additional Information	**Differentiating factor:** Business model that guarantees financial closure. In 5 years and goes from a model of infrastructure as a liability to a model with utility, infrastructure as an asset.