



CORPORATE CULTURE AND HUMAN RESOURCE MANAGEMENT

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ABSTRACT

Any corporation dedicated to developing and operating geothermal resources must attract and preserve a highly specialised group of professionals in various areas of expertise, ranging from earth science, drilling engineering, mechanical engineering electrical engineering, to general administration. The geothermal workplace requires joint efforts from several different experts and, consequently, the processes and work atmosphere must encourage and facilitate teamwork. Decisions must often be made by a team of engineers and scientists in the midst of uncertainty. The organisation must allow for discussion and dissent, so that the burden of responsibility is shared and not placed on a single decision maker. These points, along with others discussed further, make human resource management for a geothermal company somewhat special.

1. COMMON VISION, SHARED PHILOSOPHY, AND THE STRATEGIC PLAN

Ideally, a contract offer for an employee at a geothermal Company would be an invitation to “share in the dream” of the group. Competitive salaries, job stability that comes from working in the provision of an essential service, an attractive benefit package: these are all incentives for a healthy work environment, but the greatest and most important motivation for a scientist or engineer comes from something deeper, more meaningful, more personal, yet at the same time more universal. The satisfaction that one is doing something worthwhile for the planet, for one’s fellow countrymen, that one is building a positive legacy that will be enjoyed by generations in the future, is a far greater force to move people to action than mere short-term economic benefits. This idea that has the power to inspire employees of an organisation has to be found, or defined, by a representative cross-section of the Company. This would be the “reason for being” of the Company, or the Mission.

The Mission is a lofty goal, a long-term, challenging objective of what the group wants to accomplish. It must be accompanied by some sort of statement of *how* this objective is to be achieved in order to be complete: after all, a noble, lofty objective cannot be reached by illegal or immoral means. This description will be the Vision, which will be based on Values, or definitions of behaviours that the Company will recognise and value (and possibly reward) in the future.

The statements of mission, vision, and values – the Company Philosophy - should not, and cannot be defined by the top echelons of management, and subsequently impacted on the rest of the organisation. The Vision must be shared and felt by all the employees in order to be effective, otherwise the

company philosophy statement becomes just another poster that hangs on the walls as decoration. For this, a wide swath of employees should work together for period long enough to come up with a wording that summarises the joint expectations and desires of the scientists, engineers, labour unions, and administrative personnel.

The vision must then be incorporated into the strategic business plan in order to become corporate culture. The plan must include hard business targets like market share and return on investment, which focus everyone's attention on the day-to-day goals, but in the end it is the "soft" parts of the plan – the values that touch people's aspirations – that have a bigger impact in the long term. It is observed that all businesses must work for efficiency and profit, but *how* this is done is just as important, and determines the sustainability of the efforts.

2. SYSTEM FOCUSED ON THE PLAN

Though the initial strategic plan is full of idealistic fervour, a high level of expectations is raised in most employees when the plan is announced. The top management has to prove that the plan is going to be taken seriously in all of its aspects: technical, financial, and human. Some clear measures have to be taken quickly so that everyone can see where the organisation is being conducted and confidence can be built.

As an example from El Salvador, one of the first measures to be adopted within the company (LaGeo) was to put a limit on the "salary gap". The salary gap was defined as the total compensation (salary plus benefits) of the highest-paid employee divided by the total compensation of the lowest-paid employee. This factor could be no more than 15. In actual practice, it has never reached more than 12. This was important because it puts everyone in the company in the same situation. The only way that a top executive can increase his own salary, is to improve everyone else's. The limit of 15 was taken from several studies done in various countries proving that Latin America is the most unequal region in the world, and that the salary gap was the source of much social discontent. LaGeo, ideally, had to be a part of the solution, not part of the problem.

Another similar measure that was very effective was to require that all benefits had to be offered to all employees. There could be no exclusive benefit packages offered to top managers, if the same could not be offered to everyone. Even personalised parking spaces were banned. Performance bonuses are defined as a result of the company's performance, and offered to everyone as a share of the profits. Outstanding individual performance is rewarded on a case-by-case basis, often on a non-monetary basis.

Other ideas were also implemented which illustrate that work based on values was more fulfilling than work based solely on profit. For example, once a year, around the anniversary of the start of independent operations, LaGeo holds the "*Ausoles de Acero*" (literally "steel geysers", from the nahuat word *ausol*, or "noisy water") ceremony, where a committee selects the individual that best exemplifies a given corporate value, from among five nominees. Individuals are selected amongst LaGeo employees, or employees of suppliers or subcontractors. The winners are given a small "steel geyser" statuette, and a chance to address the entire company. The reasons for each nomination are published, and must be based on concrete, unquestionable evidence. Other activities have included movie forums to illustrate a certain value, guest speakers participate in discussions, employees get organized to do a specific task outside of the company (like clean a beach, or work with handicapped children), and many other examples. The objective is to get people to think about values and how to incorporate values into their work.

If the efforts mentioned above are not part of a system, which is itself a product of Company policy, they will eventually die away. Several documents must be produced to direct people as to what behaviour is expected of them.

A Code of Ethics may provide general guidelines of the standards of conduct expected of directors and employees, and the procedures to deal with violations. An (elected) Ethics Committee that oversees the implementation of the Code of Ethics would be taken very seriously in most organisations. Other documents, like a “Harassment and Discrimination Policy” or an “Employment Equity Policy”, may be developed and put to work.

All of these parts of the management system document and regulate how different parts of the company should work together, and with suppliers and clients to ensure the right behaviours to achieve the objectives. The system itself, and the procedures outlined, must contain the observation of values, in order to be effective.

3. SPECIALISATION IN GEOTHERMAL IN EL SALVADOR

Because LaGeo produces energy only from geothermal sources, and because LaGeo’s strategic plan considers expansion of capacity exclusively with clean, renewable resources, employees must be motivated not only by the workplace in general, but by geothermal science and technology specifically. Furthermore, long-term operational survival of the Company hinges on the ability of the staff to: (i) find geothermal resources, (ii) develop the resource from greenfield to a power plant, (iii) operate the resource sustainably, in accordance to contractual obligations with National authorities, and (iv) do all of the above efficiently, so that geothermal can compete in the electricity market against other energy sources.

In order to develop technical competencies as part of the Human Resources Competency System, it is very important that the personnel be educated to varying degrees in geothermal science and technology. In the past, there were four international geothermal schools that offered opportunities for training: the International School of Geothermics at Pisa, Italy, the Geothermal Institute of the University of Auckland, New Zealand; the United Nations University, Geothermal Training Programme in Reykjavik, Iceland; and the Kyushu University through its Geothermal Research Centre at Fukuoka, Japan. For various reasons, the alternatives for Salvadorian scientists and engineers have narrowed over the years, and at the moment the only international school that holds its doors open is the UNU-GTP. In view of this reduction of opportunities for specialisation, and in order to support continued growth in geothermal in El Salvador and Central America, LaGeo opted to develop an in-house training programme, called DICITEG for its Spanish acronym (diploma course on geothermal science and technology).

The DICITEG is given by LaGeo employees that have been trained in one or more of the international schools, and also hold ample practical experience in the field they teach. There are four modules of the DICITEG that are imparted when needed. The first module covers general geothermal concepts and electricity markets, and is given to all personnel, regardless of background or hierarchical level within the Company. The other modules are more specialised. The detailed contents of DICITEG are shown in Table 1 below.

Of course, there are still options for training abroad that are open to Salvadorians. The UNU-GTP Diploma course and M.Sc. programme offer the most in-depth specialized courses, but there is international cooperation offered for training in broader but related areas, which can then be adapted to the needs of geothermal. For example, there are opportunities for Diploma courses and M.Sc. degrees in environmental studies and renewable energies, and courses offered by manufacturers for power plant operation and maintenance, as well as new technologies. Many of these opportunities are offered to English speakers only, so LaGeo has been running English-language courses for interested employees.

TABLE 1: Syllabus for DICITEG

Level	Content	Directed to	Hours No.
I	Introduction to Geothermal Energy <ul style="list-style-type: none"> ▪ Basic Concepts of Geothermal Energy ▪ Geothermal Power Plant Basic Operation ▪ El Salvador Electric Law Framework ▪ El Salvador Environmental Law Framework ▪ Safety and Environmental Integrated System (Quality Control) ▪ Budget Planning, Accounting, and Financial aspects 	All personnel	8 8 4 4 4 4
II	Geothermal Resources <ul style="list-style-type: none"> ▪ Geology of Geothermal Systems ▪ Chemistry of Fluids ▪ Geothermal Resource Assessment ▪ Database Information Systems ▪ Geothermal Exploration ▪ Conceptual Models ▪ Special Exploration ▪ Risk Assessment 	Laboratory and Reservoir staff	24 8 8 8 24 8 16 8
III	Geothermal Engineering <ul style="list-style-type: none"> ▪ Well drilling ▪ Gathering System ▪ Geothermal Project Development ▪ Geothermal Power Plant Design ▪ Chemical Evolution ▪ Financial Aspects of Geothermal Projects ▪ Well logging and field monitoring ▪ Geothermal Power Plant Efficiency Analysis ▪ Geothermal Field Management ▪ Reservoir Engineering 	Engineering and Power Plant staff	16 8 8 16 8 8 8 8 8 8
IV	Geothermal Power Plants <ul style="list-style-type: none"> ▪ Geothermal Power Plant Types ▪ Thermal Conversion Efficiency ▪ Input and Auxiliary Equipment ▪ Turbine, Condenser and Ejector ▪ Auxiliary Equipment ▪ Pumps and Cooling Towers ▪ Generator and Auxiliary Equipment ▪ Automatic Control and Instrumentation (DCS) ▪ Substation and Transmission Lines ▪ Power Generation Plant Operation ▪ Electric Market Operation in Central America 	Power Plant and Engineering staff	16 4 4 8 8 8 8 8 8 8 4

In short, creating a stable base of motivated geothermal specialists who interact permanently with other administrative and operational staff requires a large effort to train employees in geothermal, but also the general work environment must be conducive to achieve the Company strategy. Without the latter, the former would not be possible.

REFERENCES

Velis, Evelyn, 2006: Plans for Geothermal Training in Central America. Workshop for Decision Makers on Geothermal Projects in Central America, UNU-GTP, 2006.

Rodríguez, J.A., and Velis, E., 2007: Corporate Culture and Human Resource Management in LaGeo, UNU-GTP Guest lectures, 2007