GEOTHERMAL AGRI-FOOD APPLICATION

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MISSION

TO PROVIDE SOLUTIONS IN A SUSTAINABLE WAY USING CLEAN ENERGY THROUGH TECHNOLOGICAL DEVELOPMENT, SPECIALIZED HUMAN RESOURCES TRAINING AND KNOWLEDGE DISSEMINATION.

VISION

BE A MULTIDISCIPLINARY GROUP THAT PROVIDES INTEGRAL SOLUTIONS TO FOOD, WATER AND ENERGY SECTORS, THROUGH APPLIED RESEARCH. BY CONSOLIDATING MEXICAN TECHNOLOGY WE ARE LOOKING FORWARD TO BUILD THE FUTURE BY RENEWING IDEAS.
IIDEA GROUP OBJECTIVES

- To take advantage of the Mexican natural resources for the benefit of the communities, giving an added value to products.
- Mexican technology development, to be capable of providing a viable solution, technically and economically to the problems in our country.
- Generate innovative research, human resources, academic, scientific and technological linkage.
- Promote entrepreneurs to generate new jobs
Direct Use Projects Methodology

Characterization of Low enthalpy geothermal zones

Hierarchy zones > probability of success

Measure the population and social interest impact

Classification of areas with > interest and > probability of success

Pre-feasibility study
Recognition of Geothermal zones

Classification types of feasible projects to implement

R + D Minimum characteristics for direct use of projects (T. P. F)

Formal manifestation of interest and support of the population

Define possible lines BM

Choose business line

Market segmentation

Value proposal (preliminary)

R&D

BM Definition
Geothermal Food Dehydrator

MX/a/2015/007318
MX/a/2018/012733
Mexico wastes the **34%** of the food produced

20 million 431 thousand tons of food per year

**SEDESOR, 2017**
**SOCIAL**

- Promotes the development of the community, which is reflected in the quality of life
- Promotes the integral use of raw materials by allowing farmers to sell at competitive prices

**LIVEABLE**

- Displacement of fossil fuels, in a year avoids consuming 46,500 kg of LP gas
- Reduction of greenhouse gases, compared to a conventional project, of LP gas, prevents the emission of 174 tons of CO₂ per year
- Impulse to the use of renewable energies, due to the responsible management of the geothermal resource

**EQUITABLE**

- Creation of new business lines and value chains in the communities
- Generation of long-term jobs, compared to generation projects, create 157 direct and 70 indirect jobs

**ECONOMIC**

- Economic savings in the operation, of about $120,000 MNN for not using fossil fuels

**FOOD DEHYDRATOR**

It is based on a plant with a production capacity of 5000 kg of dehydrated product per day that operates 4 months per year.
DGA10 (prototipo)
Laboratory tests were carried out, equipment was characterized and operation curves were determined for each of the proposed products.

2017
DGA10
5 jobs were generated. The DGA was installed in the field of the San Pedro Dome, with the capacity to dehydrate 10 kg of product.

2018-2019
DGA200
15 jobs were generated approx. The scaling and installation of a system of greater capacity, 200 kg of product per day was carried out.

2020-2021
DGA600
60 jobs are generated approx. It is expected to increase the production capacity, processing spaces and equipment installed in the DSP to dry 600 kg of fresh product.
LABORATORY PROTOTYPE OF THE GEOTHERMAL FOOD DEHYDRATOR
GFD200 TESTING
Deshidratador Geotérmico de Alimentos de Nayarit
Deshidrator Geotérmico de Alimentos de Nayarit
Deshidratador Geotérmico de Alimentos de Nayarit
Companies created and associated in the generation of Research and Technological Development at the Institute of Engineering

- **Consorcio Grupo IIDEA**
  - Company dedicated to the implementation, exploration, consulting and dissemination of sustainable projects in the energy area. WINNER of the 2018 PRODETES Award together with the Engineering Institute UNAM.
  - Company dedicated to the realization of basic and detailed ENGINEERING in the energy area.
  - Company dedicated to the operation and construction of energy projects especially the use of geothermal energy.
  - Company dedicated to the operation and marketing of the Geothermal Food Dehydrator DGA
  - Distributor of dehydrated food in the DGA

- **Ingeniera**

- **IES**

- **Inversa**

- **DGA**

- **IDEA**
  - Innovation
  - Human Resources
  - Research
  - Courses
  - Promotion
  - Scientist link

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WGC2020+1
THANK YOU

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Building the future
renewing ideas