UN-DESA Energy Grant

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Drying technology

CONA Austria
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1/5: Introduction

2/5: Approach

3/5: Achievements

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1/5 Introduction of CONA

Founded in 1987

Founding member of fair trade Austria

Actual 10 employees and 25 active cooperation partners with more than 600 employees

Working with partners in more than 35 countries

Solar wood drying for carpenters in Nicaragua

Solar drying of mango in MALI

Solar wood chip drying for farmers in Germany

Solar hay bale and wood chip drying for a farmer and composting plant in Austria

Solar medical herbdrying in Cuba

Solar corndrying for small farmers in Nicaragua
CONA solar drying - more than 500 plants which dry more than 150 different products
2/5 Approach:

Improve their situation by affordable, high quality drying solutions with low operating costs by long lasting dryers.

For better jobs in rural areas to create income for a better life quality.

Usual coffee drying:
Rain – dust – insects - germ

CONA drying – on sieves – lightprotected – fast drying – no insects no germ

Flies are especially dangerous for disease.

Mango rotting under the tree

Moringa drying in the sun – compared with CONA drying
3/5 CONA’s achievements:

Mali

Financed by ENDA (supported by UNDP & UNEP)

Cooperation with CONA partner Bonergie in Senegal

Job creation of about 15 direct and 45 indirect working places

Production of healthy sweets to feed children with vitamins
Organisation ENDA starts project for people in MALI to give them meaningful work by conserving valuable food which help themselves to feed their people, especially children.

They wanted to build up a first drying plant for about 600kg (1320 pounds) per batch.

Workingplace of about 15 direct workers (preparing fruit – wash, cut, pack) and about 45 indirect working places (farmers, tenders,...)

Comparable conventional dryers are more expensive (first investment) and the running costs are also very high.

Our dryer (3 units of SF200 outdoor) produces about 260 kWh thermal and 1 kWh electrical energy per day (10 hours of sun).

The conventional gas dryer needs for the same amount of fruit per day about 900 kWh thermal and 90 kWh electrical energy.

If you calculate this with an energy price of about 0.70 $/l you have minimum energy costs of about 70 $ per day. Anual costs of 25,500 $. So you could pay off your 3 solar drying unit just with the running energy costs in about 2 years. And saves about 122 tons of CO₂ every year.

Affordable high quality ecological technology according international industrial food standards.
3/5 CONA’s achievements:

Cuba
Solar drying of herbs

Boyeros
Cooperation with
CONA SOLAR
CENTROAMERICA
Supported by UNIDO

Autonomous plant:
60 m² solar plant with
photovoltaik
4 lines SF200 in the
processing building

Moringadrying in the sun – compared with CONA drying
Nicaragua:
More than 100 solar drying plants in different sizes.
Creating jobs for about 600 people direct and indirect about 2000
With local partners on site

3/5 CONA’s achievements:
NICARAGUA

Improve situations and income for our clients

Amortization of about 1-8 years (depending on customs, taxes and support)
- Creating direct jobs for about 200 women
- Creating indirect jobs of about 500 small local farmers (deliver the fresh fruit)

3/5 CONA´s achievements:

UZBEKISTAN

Improve situations and income for our clients

Autonomous plant because gas is mostly exported and not constantly available for local companies
Uzbekistan

448 m² solar surface (2011)
364 m² solar surface
+ 300 tonnes of pebble stone storage 2,5MWh
Enlargement in 2014
For the drying of berries, nuts, spices, ...

Export to EU, Aldi, Spar, Rewe, ...
3/5 CONA’s achievements:

El Salvador

More than 100 different solar drying plants

To create about 500 jobs directly and about 1000 people who are indirectly advantaged
• Biggest problem: FINANCIAL
  – Micro credits too small (<1000$)
  – World bank too large (>5Mio$)
  – Development support not easy to know how to apply where
    – especially for small amounts that appear just once
  – Payback in affordable rates (3-5 years)

• Possible ways of solution:
  – Local agencies/partners
    • which buy several units
    • Project dimensions between
      100000 - 500000$
    • apply for support at once for all
    • gives local credits to its customers
    • Efficient CONA training possibilities
      for all costumers and units together

Mail: solar@cona.at
• Look for competent partner that advise, sell, install and train the customers on site.
  – What does this partner need?
    • A company which can import goods and sell them
    • A stock on site
    • Technical background/understanding
    • Financial capital that purchases around 50000$ and more per container is possible
  – What offers CONA?
    • More than 30 years of experience in international projects
    • An innovative product with a very high technical support
    • Further development of the technology
    • Train the trainer on site – for local technicals
    • High quality solar drying plants from small to big sizes
    • Perspectives for your ecological and economical success
CONA SOLAR
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CONA
SOLAR DRYING

An economical and environmentally friendly investment into future!