

Objective : The goal is to design and build a solar dehydrator to dry food, wood, etc., following sustainable and ethical design practices. The purpose, target user segment and the full set of device requirements are to be defined by the team based on the state of the art, marketing, sustainability and ethical analyses.

Requirements : Reuse existing components or use low cost hardware solutions ; – Use of open source and freeware software; – Adopt the International System of Units (NIST International Guide for the use of the International System of Units); – Be compliant with the Machinery EU Directive (MD), Low Voltage EU Directive (LVD) and Restriction of the use of certain Hazardous Substances (RoHS) EU Directive

Maximum budget : 100 €

Two choices : direct or indirect heating.

	Advantages	Downsides
Direct	Easy to make and to move	Direct exposition to sun rays damage the food
Indirect	Heat less destructive than direct heating	Harder to make

-> Obvious choice of indirect heating

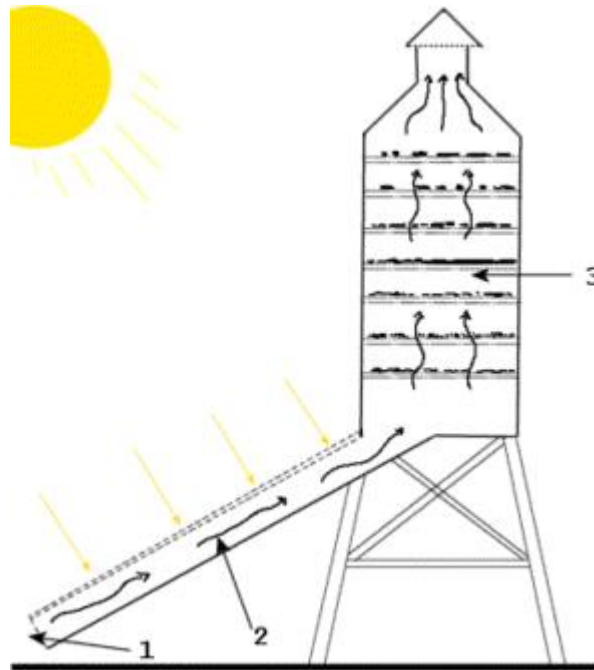
In any case : a glass or transparent plastic plate is needed as well as holes to avoid condensation

Materials : they have to be resistant to hot and humid air

Aeration holes : at the bottom (cold air inlet), at the top (hot air outlet)

Very important factor : Humidity must be minimal -> humidity regulator and also temperature regulator if necessary (or wanted).

Example of indirect heating :



Fruits and vegetables compatible with the solar dehydrator :

Apricots, bananas, cherries, strawberries, currants, beans, blueberries, pears, peaches, apples, plums, tomatoes, figs, kiwi, mango, papaya, rose hips, brugnnon, citrus fruits (bark), prunes, grapes, dates, cranberries.

Facilitate the move -> wheels like in this image :



Basically, what we want :



We need to add wheels, and regulators.

