

Alternative Energy Resources Windmills



- § The wind energy market is one of the fastest growing markets in the world
- Wind energy is yet the most advanced renewable energy source
- § Governments around the world has prioritized:
 - Reduction in dependency of oil
 - Reduction in emission of green house gasses



App. 15000 windmills were commissioned in 2008 The players are:

Manufacturers	Market share *2008
Vestas, DK	20%
GE, USA	20%
Gamesa, Spain	12%
Enercon	10%
Suzlon, India	9 %
Siemens, DK/De	7 %
Others	22%



App. 15000 windmills were commissioned in 2008 In the following countries:

Countries	27000 MW installed/2008
USA	30,9%
China	23,3%
India	6,7%
Germany	6,2%
Spain	5,9%
UK	3,1%
Portugal	2,6



- Products to be packed
 - Foam/Balsa for the wings
 - Foam/balsa for the Nacelle
 - Electrical control cabinets
 - Ball bearings
 - Transmissions
 - Brakes
 - Internal fittings for the tower
 - Assemblies
 - Others



Construction of a windmill





- Successes with Vestas
 - Mounting brackets for smaller wings
 - Replacement brackets for smaller wings
 - Foam for Wings
 - Electrical control cabinets
 - Glass fiber waste from wing plants
- Projects
 - Internals for towers
 - Brakes
 - Hydraulics



Mounting brackets for wings for Vestas

3000 boxes – value €450,000 (cross country coop. with Spain)

Dimensions: 1050x1050x1050

Shipping from Denmark to Licensees in Spain and Italy Why Clip-Lok:

- Easy access mounting bracket bolted to base sides/ends taken of
- Flat-packable for reduced return transport costs



Replacement mounting brackets for wings for Vestas

First order 50 OSB boxes – Pot. 500 boxes. value €45,000

Dimensions: 1050x1050x650

Shipping from Denmark to windmill parks globally

Why Clip-Lok:

- Easy access mounting bracket bolted to base sides/ends taken of
- Limited re-used if customer wants to return boxes
- Clip-Lok already used by Vestas



Foam for wings for Vestas

1000 boxes – value €400,000

Dimensions: 2200x1200x1200

Why Clip-Lok:

- Mega pack for line 1 box for each half
- Easy access through front with side off
- High stacking direct on floor
- Re-usable
- Reduced damages

Competition: card board boxes







Electrical controls cabinets

100 boxes – value €25,000

Dimensions: 1800x1050x750

Why Clip-Lok:

- Easy access
- High stacking direct on floor
- Flat packable



Glass fiber waste material

150 boxes – value €30,000

Dimensions: 2300x1350x1150

Why Clip-Lok:

Flat packable

High stacking direct on floor



Glassfiber waste







The first movers gets the market

It is not too late

Go get it