

## NOMENCLATURE

## ROLL-UP SOLAR PANEL SYSTEM FOR HURRICANE PROTECTION

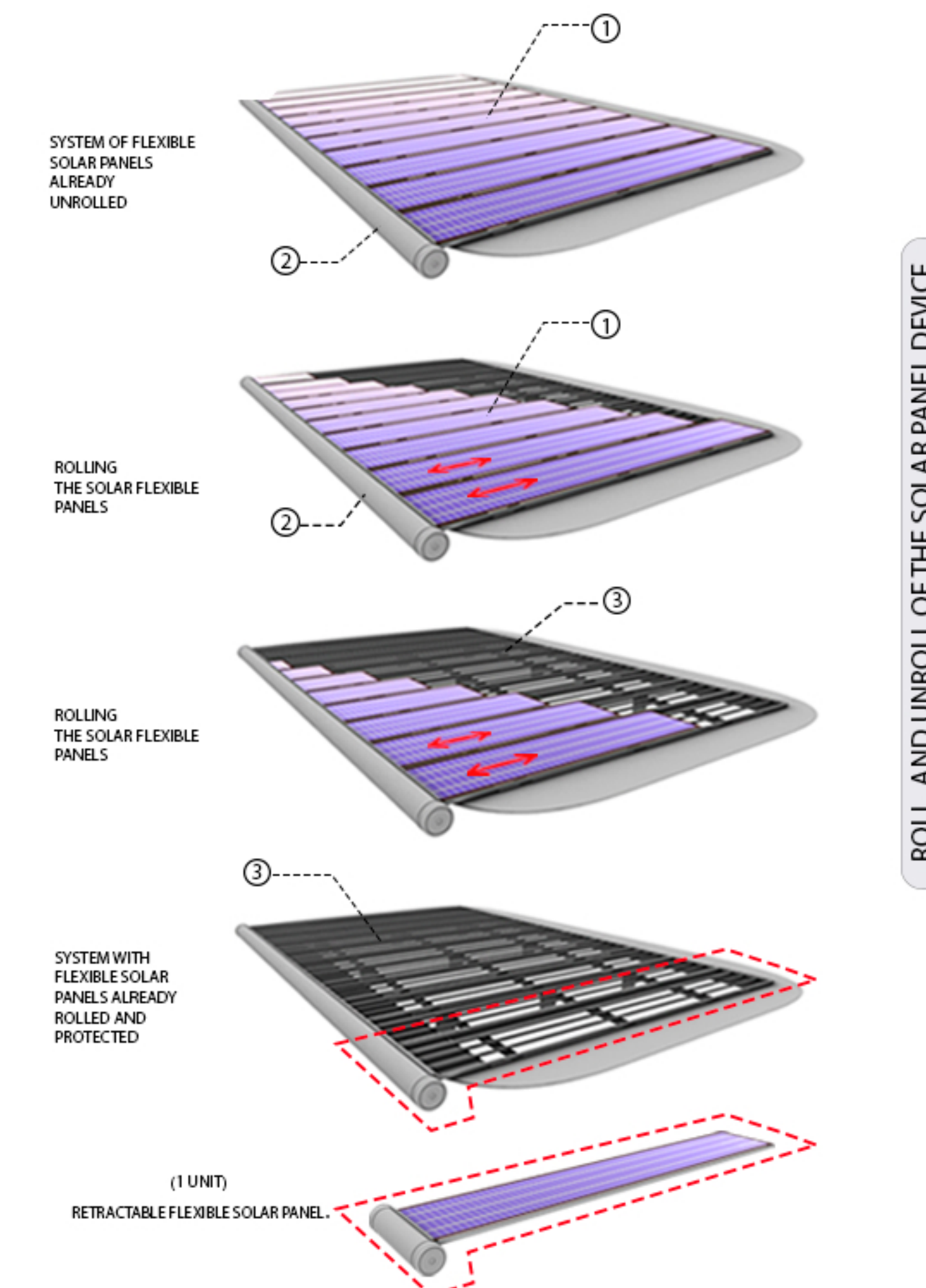
- ① ROLLABLE RETRACTABLE FLEXIBLE SOLAR PANEL
- ② STORAGE FOR FLEXIBLE SOLAR PANEL SYSTEM USING UNFOLDING FORM
- ③ SUPPORT STRUCTURE OF THE SOLAR PANEL ROLLING SYSTEM

## WATER COLLECTION AND STORAGE SYSTEM

- ④ ROOF RAINWATER HARVESTING SYSTEM
- ⑦ EXTERIOR RAIN WATER CAPTATION AND DISTILLER DEVICE SYSTEM
- ⑧ OTHER WATER CAPTATION ZONES (DECKS AND PAVEMENT ZONES)

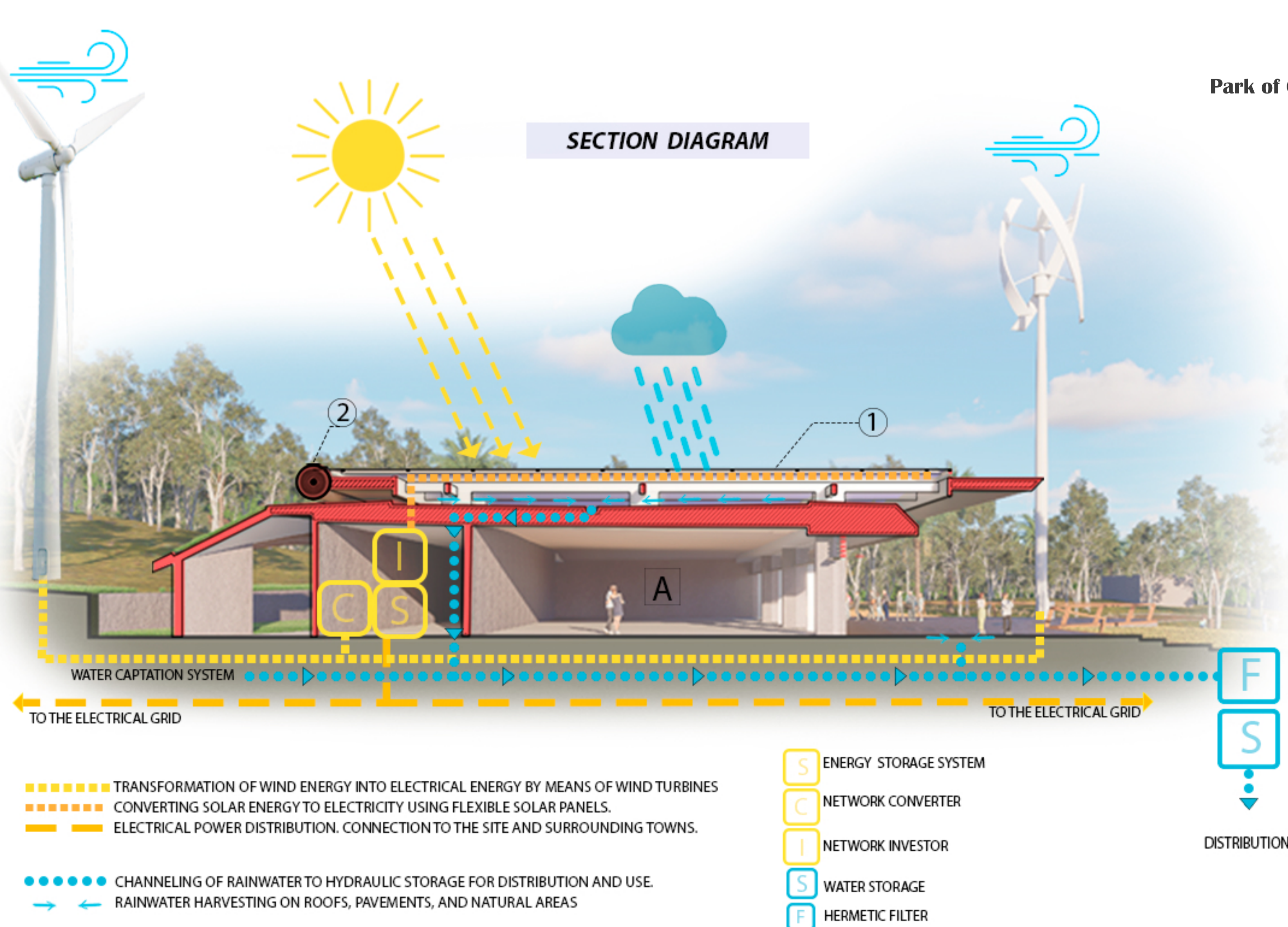
## WIND TURBINES

- ⑤ MEDIUM-POWER HORIZONTAL ROTOR WIND TURBINES ( OUTSIDE THE SITE )
- ⑥ WIND TURBINE VERTICAL AXIS

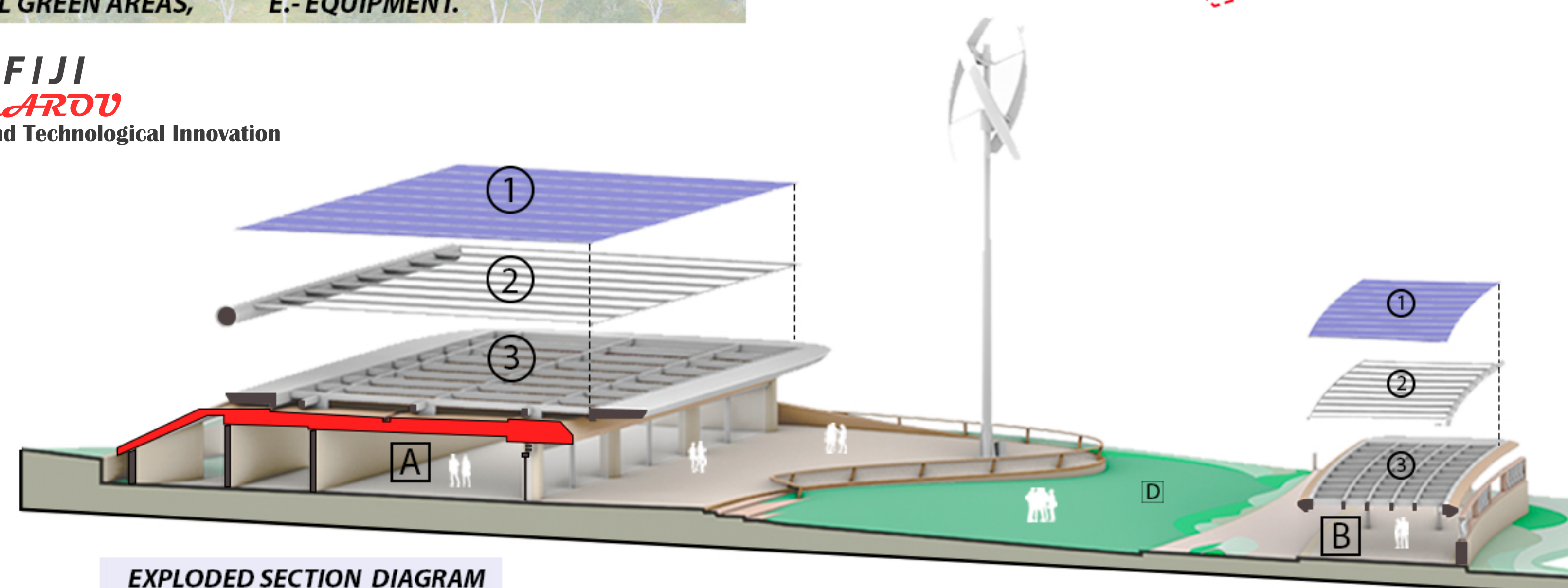


**FIJI**  
**MAAROU**  
Park of Culture and Technological Innovation

## SECTION DIAGRAM



## EXPLODED SECTION DIAGRAM



## ENERGY PRODUCTION

## FLEXIBLE SOLAR PANELS

Location	NAVITI
Location (DD)	LAT, LONG: -17.59, 177.46
Elevation (m)	9
DC System Size (KW)	75
Module Type	Thin Film
Array Type	Open rack
Array Tilt (deg)	18
Array Azimuth (deg)	0
System Losses (%)	14.08
DC to AC Size Ratio	1.2
Inverter Efficiency (%)	96
ANNUAL Average POA Irradiance (kWh/m2/day)	5.28
Proposed flexible panel : 300 W	
Output: 75000w / 300 w =250 solar panel	
Area of the proposed panel : 1.75qm	
Estimated area for paneling : 425 sqm	
Paneling area in Pavilion : 460 sqm	
Paneling area in Multipurpose building= 800 sqm	
ANNUAL OUTPUT AC System (kWh/annual)	109 835.78
DAILY PRODUCTION AC System (kWh/daily)	300.92

## MEDIUM-POWER HORIZONTAL ROTOR WIND TURBINE

MODEL: Norvento Enerxia nEd100
NOMINAL POWER: 100 kW
TOWER HEIGHT: 25 m
ROTOR DIAMETER: 22 m
Rated speed: 10 m/s
Starting speed: 3 m/s
Cutting speed: 20 m/s
Maximum gust: 59.5 m/s
Power train: Permanent magnet generator
Operating in hybrid systems
NAVITI
AVERAGING WINDS RANGE: 20 to 50 km/h = 5.56 to 8.33 m/s
ANNUAL WIND TURBINE PRODUCTION AVERAGE: 250 to 400 Megawatt
USEFUL LIFE: 20 years or more.

## WATER STORAGE

SURFACES CAPTATION
Site Area: 14,618 sqm
Surface promoted for collection: 80% = 11,694.4 sqm
Runoff factor= 70% efficiency
Runoff factor material: Soil or Mud
Annual precipitation average: 250 mm
Annual average capture : 2,923 600 lt
Annual average capture : 2,923.6 m3
SEA WATER DISTILLATION
-Hello Water spheres: Seawater distiller using the s Source
-Hydropanel : Panel-shaped device that transforms condensation from ambient air into mineral-filtered water.
-Fog catcher membranes: Fog-catching membranes to collect water from the environment by dripping.
-Distillation system with a wind-driven margarita rotor pump and shallow solar still.
-Glogau type seawater distillation: Distillation through membranes and the action of the sun, that can condense sea water.