**LAGI 2019**

**Sound of nature**

**Design goal**

The main purpose of this project is to operate as a plaza .

a new look to renewable energy (especially wind power) and what to show how much energy we can produce just with wind .the ceiling warding the visitors from direct sunlight and is made of small pieces which they spin and act like turbines.  
there is four pipes with turbines in and many little pipes joined on. They take wind and part of it converts to energy and they let out the rest of it to cool down the area beneath. The little pipes actually act like diaphragms , as the wind comes out it makes a sound.  
so the visitors can come and enjoy the nice shade with natural cooling and they can enjoy the variable sound that nature creates through day and night , every time of the year as long as the wind blows on earth.

**Amount of produce energy**

The ceiling is made of almost 11000 spinning pieces and every three of them is connected to an engine . according to average wind speed in Abu Dhabi (around 9MPH) we used 1 KW engine . Startup wind speed needed is between 5-6 MPH.

In pipes we have ten 10 KW turbines with the same startup wind speed.

Little pieces: (11000/3)x1 kw x 24 h x 365 d x 0.25(efficiency)=8,030,000 KWh

=8030 MWh

Turbines: 10 x 10 KW x 24 h x 365 d x 0.25(efficiency)=219000 KWh=219MWh

Total energy produce annually: 8249 MWh

**Integration into the site**

There is so many renewable energy signs like a wind catcher and a photovoltaic farm , there is not enough space for people to visit and see what renewable energy can do.

After the city is completed , with so many people living in it we wanted to create a space for people to gather around and use this project as a multi functional open space.

People can enjoy their free time in this cool , area and see the future of living the future of energy making ,without any pollution an greenhouse gas.

**Environmental assessment**

the project uses wind power to make energy and it doesn’t generates greenhouse gas. The material of spinning pieces is recycled plastic. Forgoing untouched materials in nature makes a huge difference .

making a big space of modular pieces helps us to prevent wasting energy on construction. They are prefabricated and they will be installed after the structure is installed.

The shape of the project wards the visitors from direct sunlight and oriented in southeast-northwest axis to take more wind and more shade. ceiling has four pipes with total ten turbines in them. The turbines intake the wind and with some little pipes they let the air beneath with pressure. It makes a sound coming out and by natural ventilation we prevent using any cooling system.

**Dimensions**

Two sections each:  
70m x 100 m

Min height 4 m

Max height 6 m

**Materials**

**.**Alominium

.Plastic  
.Glass

.Steel