**COCOON** represents the metamorphosis of our culture from the ages of waste to the ages of balance with our environment. Shaped like a spiral, it also represents the flow of energy, the connection between Masdar city and Abu Dhabi, and the movement towards the future.

The spiral is composed of 12 interconnecting loops, one for each month, oriented to the South. These loops widen in the upper side and tilt towards the sunlight. The spiral loops protect us from the sun and together with the landscape create micro environments with vegetation and water.

**METAMORPHOSIS**

As we approach to the piece from the North, we are drawn into it, we can see the spiral in the perspective with its tilted surfaces going into Masdar city. From that viewpoint we can also see the array of wooden arches, like muscles structuring the spiral loops.

As we follow a smooth winding path, the piece is experienced from the inside, a giant protective cocoon, that with its high arches creates spaces that invite to meditation, reflection and relaxation. From a distance, the simplicity of the shape makes the piece welcoming. As we walk through it, the different sizes of the arches, and their changing width and angles as they move up, create more complex shapes that stimulate our curiosity and imagination.

Walking from South to North provides a view of the clean white surfaces that create the skin of the piece, protecting the inside, and at the same time generating energy.

**Visiting COCOON will transform our perception of renewable energy and incite our own environmental metamorphosis**.

**Landscape**

The path is made up of long stones, oriented along the North-South axis, and perpendicular to the rest of the landscape elements, so that as we walk, we are reminded of the cardinal points. A series of lines cross the path in the East-West direction. These lines vary in height and composition. Some are extruded rectangular monoliths of different materials and heights, creating places to sit or to climb. Some are flat, levelled with the floor and connecting the main path to the surrounding areas. Some are made up of grass, creating soft surfaces where people can sit and enjoy. The vegetation is also aligned along the East-West axis, with lines of palm trees and local plants. The orthogonal order of the landscape contrasts with the organic nature of the piece placed in it.

**Generation:**

The white solar panels create a pure, smooth surface that at the same time, generates energy. The panels receiving sunlight on the upper side of the spiral amount to 10,500m2, generating approximately 1 MW energy.

**Nameplate capacity: 1,050 kWp**

**Annual kWh of energy expected: 1,655,640 kWh**

**Storage:**

Both ends of the spiral contain the power converters as well as an array of batteries that can store 6,300kWh of energy. We are proposing to have 15 tesla powerpacks in each of the ends of the spiral.

**Constant power capability:**

With the generation and the storage, the piece could provide Masdar City with a constant 420kW of energy, day and night.

**Technology:**

White Solaxess nanotechnology film solar panels, output >100Wm2

Tesla Powerpack batteries and converters.

**Dimensions:**

The structure occupies most of the site in a continuous interconnected spiral.

The dimensions of the spirals vary along the path, the tallest spiral is 45m high, and the widest is 60m wide, it also allows for cars to drive under it where the site is crossed by a street.

**Materials:**

The proposed materials are all renewable and or recyclable: wood, glass, steel.

The main structure is made of wood beams assembled with Stainless steel nuts and bolts, sitting on a recycled concrete foundation.

The loops of the spiral are clad with white glass panels and white solar panels, creating an almost seamless clean white finish.

The landscape proposed is made of locally sourced stones and gravels.

**Construction costs:**

The technology used in the proposal is all commercial and tested.

Glulam wood arches, concrete foundation and glass cladding.

The piece generates 1,050,000watts, @ 20dollars/W equivalent to a 20million dollars budget.

A 100m long wooden bridge using the same technology costs around 1million dollars to build. Since our structure has no pedestrian or vehicular traffic, it is only supporting itself, it will be cheaper.

Our proposal includes 12 loops that create the spiral. Based on the bridge construction costs (un-upper-threshold), the construction will require 12million dollars, which leaves us with 8 million dollars for the landscape and the artist.

**Environmental impact:**

The proposed materials are all renewable, recycled and/or recyclable:

For the structure: Wood is a renewable material that is light strong and durable, requires little or no maintenance and it works as well as carbon capturing.

Connectors, bracing and reinforcements are made of recycled steel.

The foundations can be made with 100% recycled concrete aggregates.

The glass cladding is recyclable, and glass is considered a renewable material.

The landscape pavements and volumes are proposed with locally sourced recycled stones and gravels.

The plants proposed are low maintenance and able withstand the local environment with little or no maintenance once they settle.

The only plant that will require maintenance are some grass areas along the main path and some that cross the path to create soft surfaces where people can sit and enjoy.

The technical equipment, solar panels, batteries and connectors will be easily removable and replaceable, for future updates when technology reaches higher efficiencies.