



Team 2

Smart House on the Floating Islands

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Today's Agenda

- Anping is under Global Warming.
- Is a smart floating island feasible?
- Problems of living on floating islands.
- Solutions for smart house.




01

Anping is under Global Warming.



Will Anping be flooded after 2050?

- Greenpeace pointed out that when the climate crisis strikes, future storm surges and rising sea levels will submerge 2,120 square kilometers of Taiwan's main island. If we do not actively promote carbon emission reductions, in the worst case scenario, rising sea levels and storm surges will affect the safety of more than 2.9 million people.
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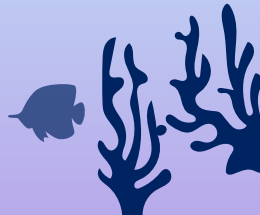
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What can we do for our city?



- Comprehensive assessment of climate risks in Tainan City.
- Set Tainan City's carbon reduction goals and strengthen green energy actions.
- Create renewable energy and reach low-carbon transportation development goals.



An underwater scene with a large blue sea turtle swimming in the center. Above it, a manta ray and several small fish are visible. The background is light blue with rays of light. At the bottom, there is a colorful coral reef with red, yellow, and purple corals, and a yellow sponge. The number '02' is in a white box with a blue border at the top right. The text 'Is a smart floating island feasible?' is in blue. There are green seaweed-like plants at the top and bottom right.

02

Is a smart floating island
feasible?

Feasibility of floating islands.



- Floating sea island can fulfill the functions of residence and recreation.
- It can be used as a place to store sustainable energy, such as offshore wind farms, tidal energy, etc.
- Floating solar panels.
- Floating fish/seaweed farms.



On the island



Current difficulties encountered.

- How to build giant artificial islands?
- Potential challenges include developing strong, safe building structures that can withstand sea winds and currents.
- It needs to consider the positive and negative impacts of an isolated island surrounded by the sea on its surroundings.

Functions of a Floating Island.

Some cities built on coastlines are being threatened by global warming and rising sea levels. So, let's think about it from another angle, can this huge floating artificial island solve the problem?

We hope that the idea of an artificial island will gradually be transformed into a viable concept.

Let's watch the video together.



MARIN has tested a floating model of a giant island for possible sea level rising and sea symbiosis solutions.



03



Problems of living on floating islands.

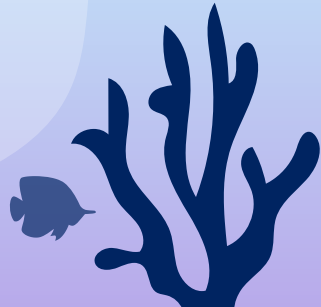
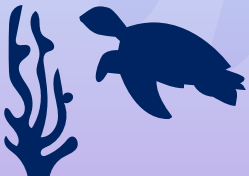
How to solve the problems of island wobbling?

Floating islands should be large and strengthen the anchor by grouping multiple floating islands together. Chains are used to connect each floating island and anchors are used to secure each one. We can also build small bridges between the floating islands to facilitate the movement of residents.

Food supplied on the islands.



1. The concept of the greenhouse is transferred to the floating island because it can regulate the temperature, so food can be grown efficiently .
2. Drought-resistant plants can also be planted on the islands.
3. A fishing net farm is added to island as well.





04

Solutions for smart house.

It's the only space in the world.



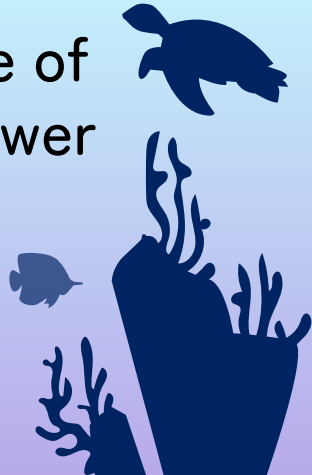
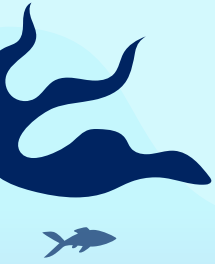
As the sea level rises, much of the land will be flooded. People have to build floating islands to survive.

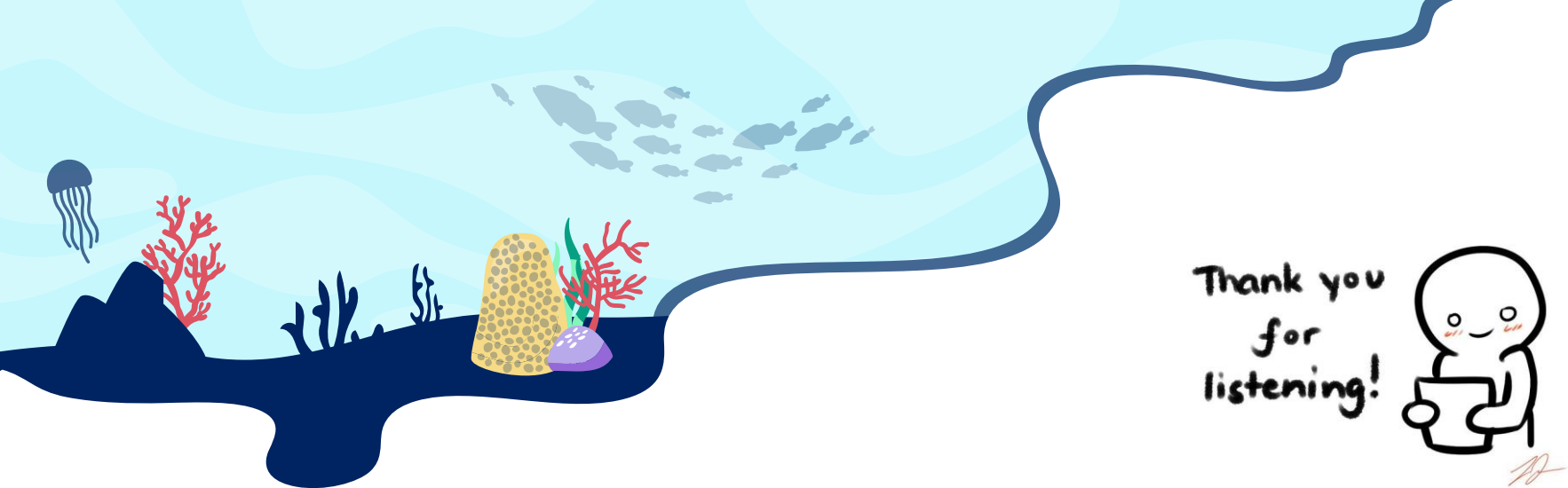
However, there is a big problem the moisture of house is too high . Therefore, it is necessary to use building materials that are not prone to moisture, for example: fiberglass polymer, high performance cement boards, PVC tiles, wall panels, etc.

Smart house energy.

In order to take advantage of the waterfront, we set up wave-absorbing templates next to the floating island to convert the energy from the waves into electricity for storage . We add solar panels to the tops of all the buildings for generating more electricity.

Combining wind energy and solar panels on the side of the floating island can increase the efficiency of power generation .





Thanks for listening.