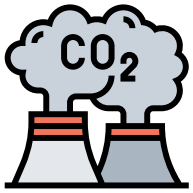
OTEC
Activity Book

This book belongs to: _____

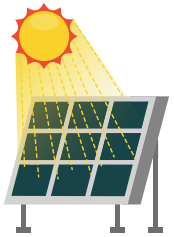
What is renewable energy?

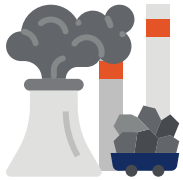
Renewable energy is the name given to any type of energy that originates from an inexhaustible natural source and does not pollute the atmosphere, thus being a better option for our planet. Examples of renewable energy sources are the ocean, rivers, lakes, wind and the sun, among others.



Non-renewable energy is produced by sources that will run out and cause harm to the environment and people, with the destruction of ecosystems and pollution. Examples of non-renewable energy technologies are fossil fuels, natural gas, nuclear and mineral coal, among others.

Draw a circle around the renewable energy technologies and a rectangle around the non-renewables:

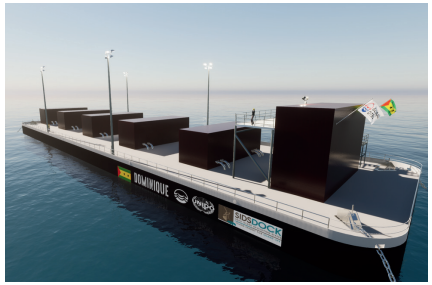




GLOBAL OTEC

So, can the ocean generate electricity?

YES! Through renewable energy technologies like OTEC, we can generate electricity using the ocean.
OTEC is the short form for Ocean Thermal Energy Conversion. This technology can work anywhere in the world where there's access to warm tropical seawater on the surface (around 24°C), and cold deep water (around 2°C).
Did you know that there are over 100 territories that can be powered by OTEC? That's a lot! Meaning that the ocean can play a key role in creating a more sustainable future, particularly for tropical islands.



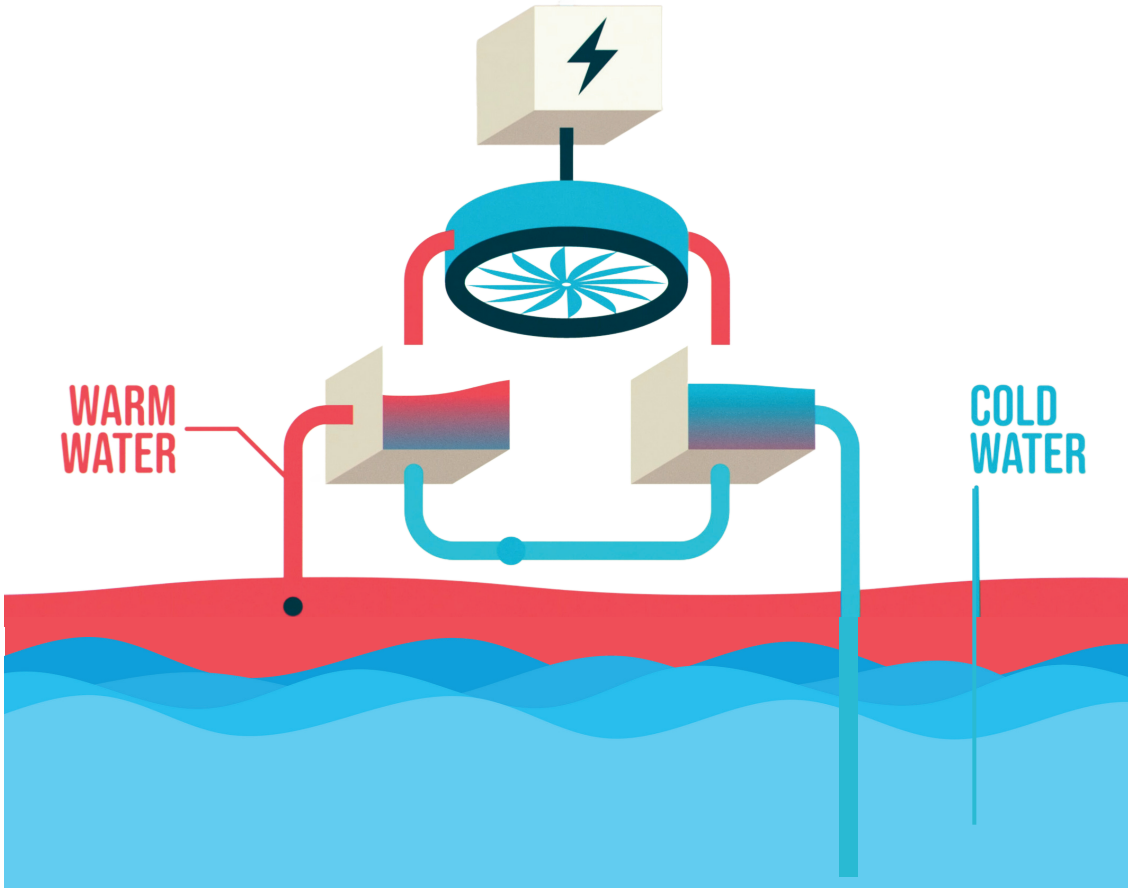
Named Dominique, the world's first commercial-scale floating OTEC platform will be installed in São Tomé and Príncipe, in Africa, setting a shining example for the world of how the ocean can contribute to the renewable energy transition on tropical islands.

THIS IS HOW OTEC WORKS:

The OTEC cycle uses the temperature difference naturally found in the tropical area of the ocean to run a process that generates electricity.

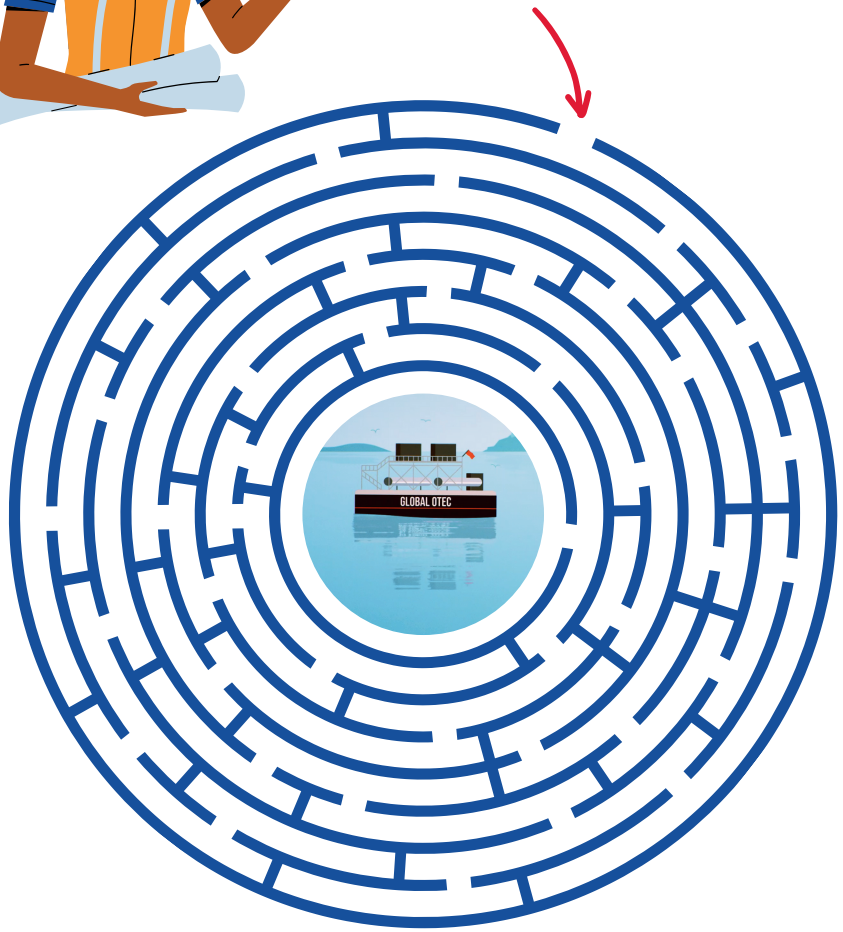
- The warm water from the sea surface is captured and used to boil a fluid, which spins a turbine and then runs a generator.
- At the same time, the cold water extracted from depth is used to cool down the process, which runs continuously, 24 hours a day, 7 days a week. This is how the ocean generates electricity!

SCAN this code to watch our animated video and learn more about OTEC!



OTEC MAZE

Now that you know how OTEC works, help our engineer to reach the OTEC platform and start producing electricity 24/7:



SPOT THE DIFFERENCE

Find the SEVEN differences between these images of a tropical island powered by OTEC:

HIDDEN WORDS

Find the words:

W	W	R	T	A	Y	P	S	U	N	E
A	R	O	C	E	A	N	Y	W	R	N
S	E	O	I	S	L	A	N	D	S	V
S	N	I	R	F	C	N	D	G	M	I
L	E	P	N	A	T	U	R	E	S	R
B	W	L	D	W	C	E	Q	N	E	O
G	A	A	S	N	L	X	K	E	N	N
R	B	N	O	T	E	C	Z	R	E	M
A	L	E	L	L	E	A	N	A	R	E
B	E	T	B	E	A	C	H	T	G	N
H	E	Y	N	A	J	P	E	O	Y	T
K	L	I	G	H	T	O	Q	R	A	A

~~OTEC~~ ENVIRONMENT PLANET LIGHT

ENERGY OCEAN NATURE ISLAND

BEACH RENEWABLE GENERATOR SUN

OCEAN LIFE

OTEC also has a minimal impact on ocean life. This means that marine fauna and flora are safe. Let's now count how many of each animal you can find in the ocean!
Don't forget to write the totals in the spaces below!

TOTAL

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