The European Standard

European Classes at Adm

- Editors : *Mrs J Peyre and Mrs R Amid*
-

Natural catastrophes : hard time to the Planet

Terminale Euro

The 2004 Phuket tsunami and its link to global warming

I/ The disaster in Phuket

On 26 December 2004, an earthquake occurred in the Indian Ocean, off the Indonesian island of Sumatra, with a magnitude of 9.1 to 9.3.
This earthquake was the third most powerful earthquake ever recorded in the world. In the minutes and hours following the onset of the earthquake, a tsunami, in some places exceeding 30 meters in height, struck Indonesia, the coasts of Sri Lanka and southern India, and western Thailand. The death toll is estimated at, at least, 250,000 people, including nearly 170,000 in Indonesia, 31,000 in Sri Lanka, 16,400 in India and 5,400 in Thailand, according to official estimates. It is one of the ten deadliest earthquakes and the largest tsunami in history.

II/ What is a Tsunami and why is it linked to the global warming ?

First of all, what is a tsunami? A tsunami is a wave that has a long wavelength and that, once it reaches the coast, increases its amplitude. It is therefore possible for a wave to reach up to 30 meters high, destroying everything in its path as it reaches the coast. It is triggered by a sudden shift in volume, a sudden volume displacement, which means an earthquake, an underwater collapse, an underwater volcano or a meteorite impact in the ocean. This displacement of volume creates a wave movement over the entire volume that propagates in a circle around the point of origin.

However, this phenomenon is not so natural. Indeed, most tsunamis like this one is largely due to global warming and melting ice: the ice melts and thus causes landslides leading to this disaster. Even if the global warming was not so strong in 2004, we can consider the tsunami of Phuket as the first steps of the tsunamis that still impact Thailand nowadays.

III/ Consequences of Tsunami

The UN estimates that the global damage could exceed 10 billion dollars. The time has come to rebuild living areas: houses, schools, hospitals, but also hotels and restaurants to re launch the tourist economy which is vital for most of the affected countries.

Environmentally, the coastal areas have been altered: coral reefs destroyed by the violence of the waves or by the debris, devastated mangroves, flooded agricultural land, eroded beaches, etc. The areas close to the coastline have disappeared, the beach has disappeared, the rice fields have been transformed into coastal lagoons. But the most important damage is invisible: soil pollution by chemicals spilled during the destruction of infrastructure, contamination of drinking water sources, salinization of the environment. In Sri Lanka, 62,000 freshwater wells have been contaminated by salt water or sewage. Traces of cadmium and asbestos, toxic and carcinogenic substances, were found in the water in concentrations that could represent a danger for humans. In the Maldives, much of the environmental infrastructure, such as landfills and waste treatment centers, was damaged, especially in urban areas. In the Aceh region of Indonesia, port facilities were the most affected: storage facilities for oil or toxic materials, ship holds, etc.

On the other hand, some of the containers, which have been deposited on the seabed for years, have resurfaced and their advanced state of wear and tear is worrying the authorities because they remain a few hundred meters from the shoreline. The first effects of this undesirable presence are already being felt by the local population who have been complaining of respiratory infections, mouth bleeding and skin problems.

One year after the disaster, reconstruction is underway but will take a long time. Priority has been given to the social and economic reconstruction of the affected areas, but the environment has not been forgotten, particularly in the tourist sectors where it is an important aspect.

In addition, faced with the consequences of this disaster, governments could become aware of the fragility of man in relation to nature and the need to develop in accordance with the natural risks. A balanced management of the coasts, the integration of the risk in the construction of infrastructures and the need to set up a warning system are some examples of the recommendations made by the UNEP in its report on the consequences of the tsunami published in March 2005.

Thus, to better understand tsunamis is to try to predict them. But many factors come into play and it is still very difficult to evaluate the conditions of formation of a tsunami, its amplitude, its direction or its speed.

Lily B, Naomi B, Florent H, Chiara P

AUSTRALIA BUSHFIRES IN 2020 :

- Disasters include all geophysical, meteorological and climate events including earthquakes, volcanic activity, landslides, drought, wildfires, storms, and flooding. But today, we will talk about one of the hugest forest fire of all time: Australia 2020. Indeed, Australia had passed through difficult times during the last year. The country has been devastated by numerous fires for months.

- They reported that future wildfire potential increases significantly in the United States, South America, Central Asia, southern Europe, southern Africa, and Australia. One way to analyse the relationship between wildfires and hydroclimate is to observe signals in climate variables before and during the wildfires. The relationship between climate, meteorological conditions, and fires is well known; the most destructive fires are usually preceded by extremely high temperatures, low relative humidity, and strong winds, which combine to create ideal conditions for the rapid spread of fire.

- The relationship between wildfires and local hydroclimatic variables is investigated in several studies as well. Well known is the impact of the root zone Soil Moisture in the availability of water required by plants to perform photosynthesis. Long-duration droughts introduce stress on vegetations, reduce vegetation water content, and amplify the risk of wildfires. Several studies have linked soil moisture to the risk of wildfires. Specifically, drought and high temperatures are strongly correlated to potential megafires in areas with dry vegetation. In the same context, global climate change models predict warmer and drier conditions in the coming decades, which will increase the frequency, size, and intensity of fire events.

To conclude, the 2019–2020 wildfire season in Australia killed 33 people, destroyed over 3000 homes, razed almost 19 million hectares, and exterminated about one billion animals, including several endangered species. The 2019–2020 Australian bushfire season began with several serious uncontrolled fires in June 2019. Throughout the summer, hundreds of fires burned in southeast Australia with the major peak during December and January. In eastern and north-eastern Victoria, large forest areas burned at an unstoppable rate for four weeks. There has been considerable debate regarding the underlying cause of the intensity and scale of the fires, including climate change, which brought significant international attention to this event

Ilan, Auriane, Ghiles, Mathilde

WOMEN AND TOTALITARIAN REGIMES DURING THE XXth CENTURY

1 ère Euro

The rise of extreme nationalism during the world war, how fascism impacted Italy?

In the first Mussolini's government, the fascists were in the minority. And the 1924 elections were not totally favorable to him, so we had to strike harder. Mussolini then took the assassination of Deputy Matteotti and the indignation caused by this act as a pretext to declare his regime threatened and establish a real dictatorship. Between 1925 and 1926, the so-called "fascist" laws were passed: single party, powerful political police, prohibited trade unions, enlistment of youth in mass organizations. It is the beginning of a totalitarian regime.

After serving in the Italian army during WWI, Mussolini aimed at unifying the Italian people by calling for a dictator to head the country. He decided to form the national facist party in 1921 against socialism and communism. But it was not enough. In October 1922 Mussolini declared, "Either the government will be given to us, or we will seize it by marching on Rome." The gouvernment was given no choice. Mussolini's followers (the Blackshirts) made a demonstration. Consequently, King Victor emmanuel III appointed him prime minister. To consolidate his power he had recourse to violence (police) and vote rigging (acerbo law).

The fascism is based on extreme nationalism and oppose itself to democracy. According to them, democracy is no good for the country because it focuses on individual and class interests. On the contrary, fascism has a goal to destroy the sense of community and emphasize national goals. This way of thinking goes with war, indeed, fascists and Mussolini love war because it brings a lot of tension and energy into the population.

On July 25 ,1943, Benito Mussolini was finally arrested leading to the end pf the fascism in Italy and leading to the end of the « civil war » between the two sides : the pro and agaisnt Mussolini.

Totalitarian parties during WWII: Communism and fascism

The rise of dictators after WWI:

3 systems of government competed in Europe after WWI, while the Great Depression helped totalitarian parties spread :

- Democracy in France or England
- Fascism in Italy (Mussolini), Spain (Franco) and Germany (Hitler and the Nazis)
- Communism in Russia (Lenin and Stalin)

Common points between both :

- Promoted extreme programs of social change
- Single-party dictatorships
- The State controlled the economy
- Unquestioned obedience and blind devotion were obligatory
- Police spies and terror controlled their population
- The government controlled the media
- The censorship was reinforced

Distinction between both:

➔ **Communism:**
- Economic equality → poor unless connected
- Class equality → among the poor
- All property public → owned by friends of party

➔ **Fascism:**
- National strength → war
- National pride → racism
- Private enterprise
- Rigid classes

Jonathan Jeyendrarajah
Valentine Lemaire
Camille Delporte
Rafaël Ekambi

The hidden figures of the war during WWII

Women were essential to the victory effort during the war as much as men. They contributed in the factories in the United states and Great Britain. Campaigns were created to recruit them such as Rosie the riveter, an American female worker. These jobs were dangerous and accidents happened. Allowing women and encouraging them to were a revolution and a break from solid traditions.

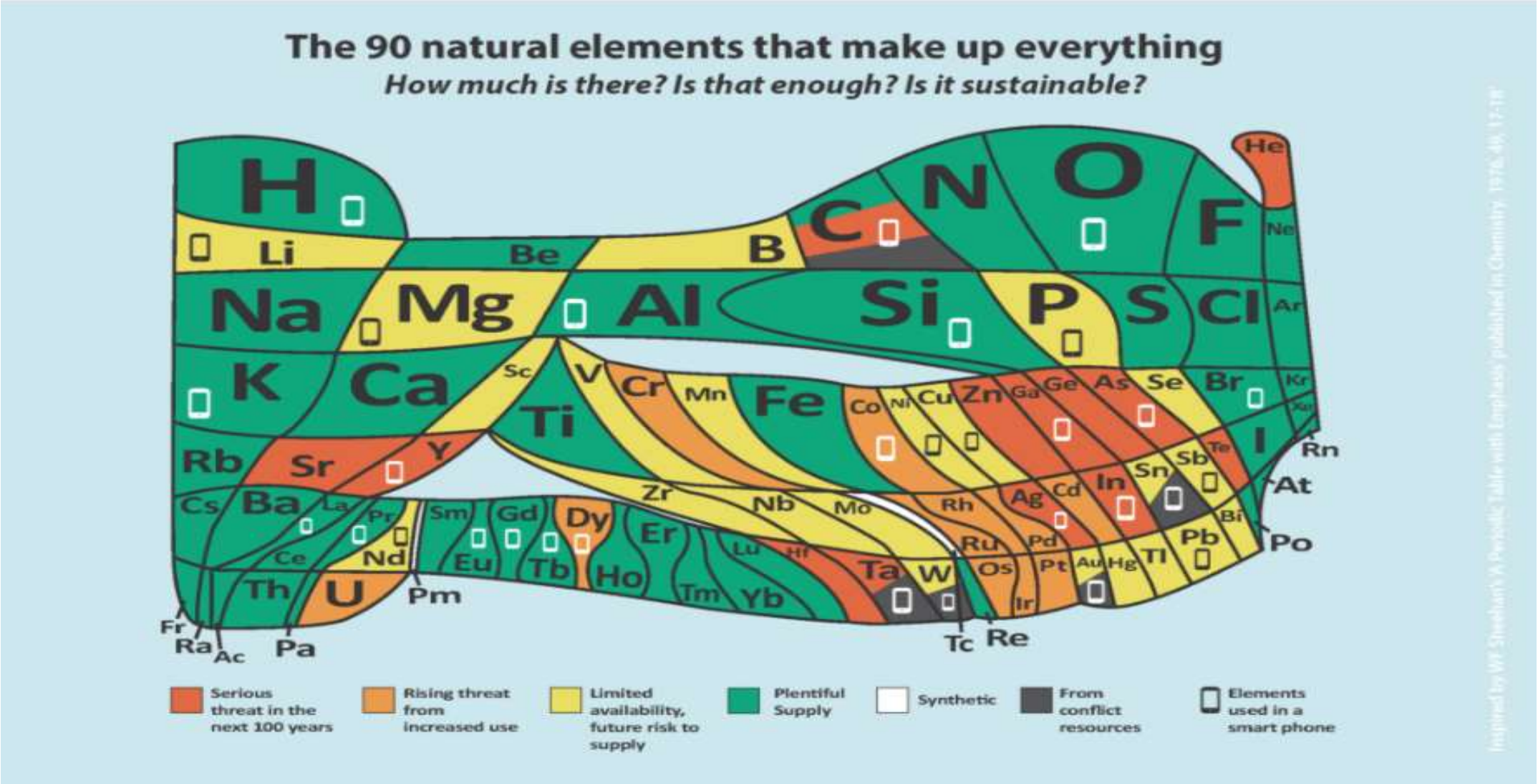
They also served on the battlefields as soldiers and even snipers in the URSS. Some women were also assigned to fly planes, or as air traffic controllers and radar operators. These jobs were not given easily to women but they fought to get the responsabilities they were capable of handling.Although their contributions were very important during the war (more than 2,500 women), they weren't allowed to keep their jobs after the war.

Volunteering became an important part of the war, and particularly among the doctors and nurses. WWII saw an increase of female doctors, surgeons, working hard to save the lives of the injured and sick. However, some were taken prisoners by enemy forces.

At home, Women were also participating by cooking meals for the men in the front including Jewish women who were in danger. Other women became restistants and participated in attacks, sabotages …

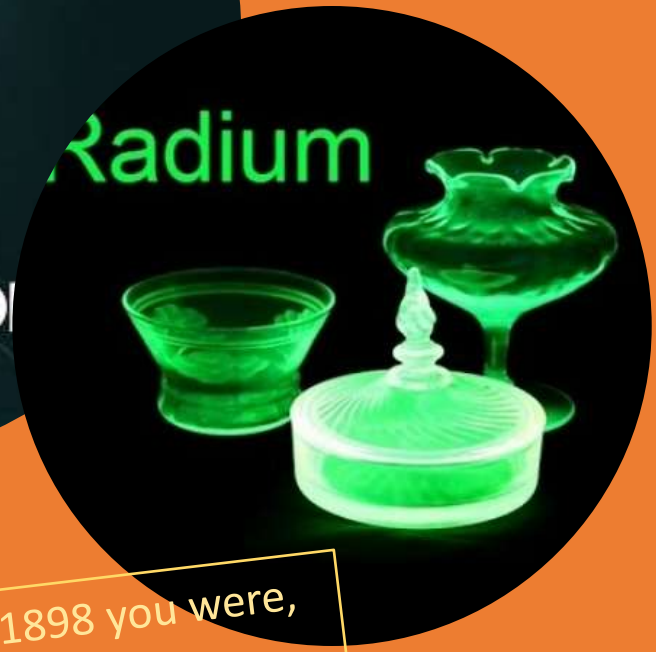
Periodic table songs

2nde Euro



Final task: The Radium song

This activity was the funniest one to do this year. At first,we didn't like the idea because we were too shy to sing in front of the class. We also struggled finding lyrics about an element, so we decided to choose the music first and since we all loved Imagine Dragons we picked Radioactive. We liked its tune and we thought about choosing a radioactive element so we can use the song's chorus. This clever idea helped us succeed in our work. Furthermore, we really enjoyed recording our voices althought it was tiring and complicated. Thanks to Alexandre, we assembled our parts and made a proper song about Radium. Finally, during the last European section class, we heard the different groups' songs, We had a good time as all the master pieces were so different. However , we felt a little bit shy while playing ours.



« Twenty first, december, 1898 you were,
Discovered by the Curies.
I'm breaking in, chemistry,
They called me out wonder metal.
This is it, There revolution
Woah …. »

Song project

« Good electrical conductor
we can find it in nature »

We chose the song « Another one bites the dust » by The Queens because the singer is Freddie Mercury and we picked the element **Mercury** from the periodic table. This music is also timeless, it's a pure masterpiece.

« Do you know this strange atom?
It's called the Mercurium (Hg) »

« Can be transformed in gold and now a fun fact without the fun
Cause of intellectual disabilities »

What we think about this last project :

- It was fun to transform science into a song, and we appreciated the moment we recorded our voices. Conversely, it was a little bit longer to do the recording but it was a really interesting experience.
- We challenged ourselves, and it turned out to be a good opportunity to develop our imagination to find the lyrics.
- We enjoyed creating the final song, so we would like to do it again !

During the realization of the project, we had to face some difficulties :

- we selected some rather difficult music, so when we recorded our voices, it was hard to get in sync with it.
- Finding the lyrics was a real challenge, and getting them to rhyme was even harder.

« Yeah, we chose the Mercurium
We chose this strange atom
Not the Californium, not the
Copernicium, no we chose the Mercurium
Eh, we chose the Mercurium, we chose
this weird atom »

OLLIVE Hermine
BOURIDANE Myriam
LOPEZ Noémie
LEFEBVRE Alice

Eco-friendly housing

1ère Euro

LET'S TAKE CARE OF OUR PLANET

EARTH'S BOUNTY

your new favorite eco-friendly bed&breakfast...

Have you ever dreamed of combining business with pleasure?
Today it's possible, by staying in this wonderful eco-responsible and energy self-sufficient bed&breakfast!
An old hangar has been redesigned and reorganized to become this incredible place, which creates more energy than it consumes, and is absolutely non-polluting!

LET US EXPLAIN...

The special feature of Earth's bounty bed&breakfast is the optimization of the roof...

We created a large **orchard** and a large **vegetable garden**, allowing our chefs to cook only our own products, which are therfore organic and that vary according to the season

10 south-facing solar panels guarantee a total energy supply all year round

A **chicken coop** has been installed, offering **fresh eggs** every morning, and allowing our establishment to produce **no food waste**, because all the leftovers are used as food for the chickens

...But not only !

All waste, if not used, is sorted and **recycled**

Three **energy stations** connected to the solar panels centralize the energy collected and distribute it throughout the building

Earth's Bounty is also **self-sufficient in its water management**. Two large tanks collect rainwater and treat it to make **drinkable** water
- One tank is used for cooking and the other for the shower and bathroom taps -

Two **dry toilets** have been installed, and the excrement collected is used as **natural fertilizer** for the plants in the vegetable garden and the trees in the orchard

The bathroom is common, to **avoid unnecessary overconsumption** of water, and your shower is timed! not more than 10 minutes per person ;) All the water used in the building is **collected and reused** to water the plants

All the furniture is **second hand** : its unique + it has second life

Concerning the heating, the **windows** allow to keep the temperature of the rooms constant all year long. But **wood stoves** are available for those who are a bit chilly!

Our mission is to show everyone that we can eat and live better while being self-sufficient, and preserving our beautiful planet, which has so much to offer us!

Lina and Eglantine

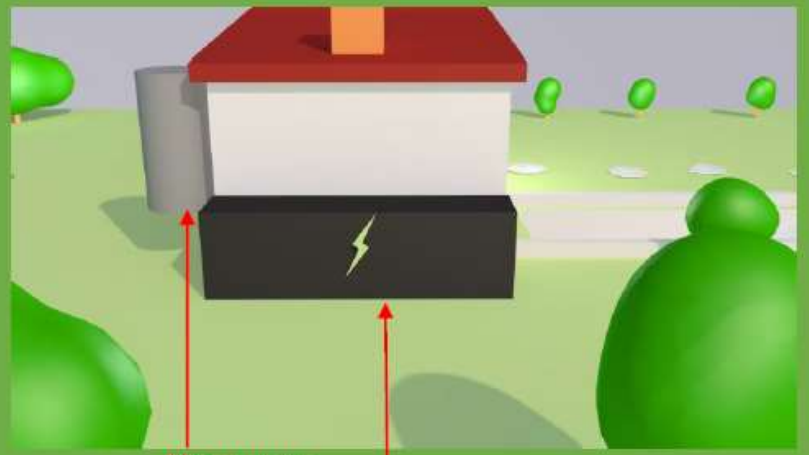
Neo Green Life

For a greener future

By Arthur Brosseau, Thibaud Deneux, Noémie Leboisne and Yann Lamara.

Our project is to create a self-sufficient and eco-responsible city. First of all For the different houses, they will be built with solar panels connected to batteries in order to also have electricity at night :

Solar panels

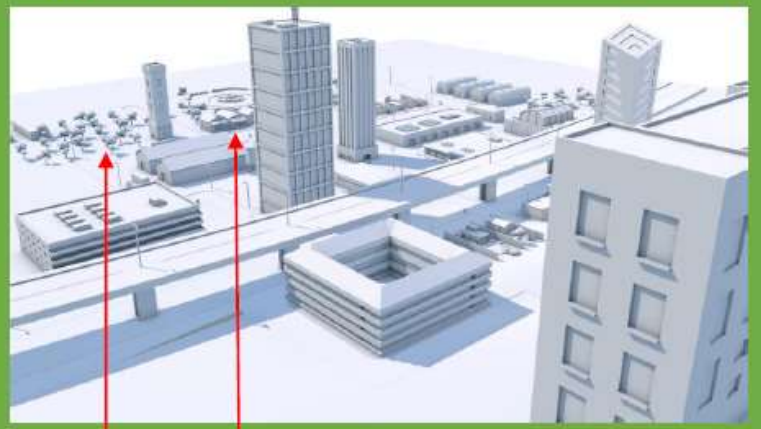


Heat pump *Batteries*

We will also invest in electric cars because we want electric cars to be the only cars authorized in the city.

Of course, electric cars need energies to work, that's why we will mainly use wind turbines in order to provide enough electricity for the city.

Finally, many green facilities such as parks and ponds will be available to improve the lives of residents and reduce carbon emissions.



Trees *Park*

Our eco-friendly house

Green house

Adam, Emile, Matthias, Eléa

First, wood is the perfect material to build an ecological house. Indeed, it is recyclable, resistant and renewable. Wood is also good looking, it combines quality and design. Another material, straw, can be used as insulation. Indeed, it combines very well with a wooden structure, forming a very ecological and efficient whole.

Water harvesting system
Half of the roof is inclined by 5° so when rain water lands on it, it slides down until it reaches a gutter and flows in the huge container on the side of the house that has a huge capacity. Later on, it is filtrated, cleaned, and used to shower, do the dishes,... most of the water used daily comes from this system, making the house's water compsumtion more sustainable: it is clean water !

Windows
Multiple floor-to-ceeling windows are installed. The house is southern faced in order to guarentee light during the day, reducing the electric compsumtion due to lighting. Moreover, it allows a good temperature control: the windows are double withed to keep the temperature. In winter, it heats up the space, and in summer, the wooden gate lowers the heating, and the greening compensates

Photons (sunlight) strike the cells.

They transmit their energy to the electrons contained in the panels.
The electrons move and produce a direct electric current.
The inverter then converts the direct current into alternating current and makes it available for use in the power grid or in a building. The electricity can be used to power appliances in the house, sold to a utility company or stored in a battery for later use in the house (e.g. at night when there is no sunlight).

"Ecology is not somebody's work; it's everybody's work"

Air source heat pump

Heat pumps use electricity to transfer heat from a cool space to a warm space, making the cool space cooler and the warm space warmer. So during the heating season, the heat pump moves heat from the cool outdoors into the warm house. Because they transfer heat rather than generate heat, heat pumps can efficiently provide comfortable temperatures for a house. Today's heat pump can reduce your electricity use for heating by approximately 50% compared to electric resistance heating such as furnaces and baseboard heaters. Our high-efficiency heat pump also dehumidifies better than standard central air conditioners, resulting in less energy usage

Green terrace

First of all, the green terrace contributes to the design of the house. Keeping a green terrace maintained makes the house more modern while giving the impression of nature and ecology. It also provides better insulation over the entire surface of the terrace, which is important, especially in the summer when the plants will block heat and light by absorbing it.

Solar Panels

The solar energy is captured through modules (large rectangles) covered with silicon cells, a semiconductor material. The capture and transformation of solar energy

Hedges

Hedges can be used in place of fences, and promote biodiversity, while being non-polluting.

How to create your project ?

To design your project, you first have to contact us and have a meeting with one of our architects. With him, you will design the house before receving an offer. During the design you will be able to have an approximation of the price. The architect will be able to help so you can have the best for the cheapest. He will also help you choose your energy devices. Then will begin the building process of your house. During this ttime you will have different meetings to design the inside of your house. For example, you will have to meet interior decorators to choose the color of your walls or the location of your plugs. You will also be able to design your garden, ask for a terrace and many more. Our goal is to make an eco-friendly house that looks like you. Because ecology and style can go together.

« Great experience with Green Home, they helped me build my house the way I wanted. We decided all the house together. And it is not that expensive to have it eco-friendly ! »

George Smith

About us

- Created in 1989
- More than 1000 houses built
- 100% of clients satisfied
- Invent, design, build
- Ecological and cheap
- Renewable energy
- LEED (Leadership in Energy and Environmental Design)
- BREEAM (BRE Environmental Assessment Method)

Contact us :

+44 20 3770 9000

www.greenhome.com

Green Home

Looking for a new eco-friendly house?

Trust us for your ***project***.

For a house which looks like ***you*** and is ***eco-friendly***.

Contact us :

+44 20 3770 9000

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Green Home

Ecofriendly devices

They help you cousume less and be more ecological.

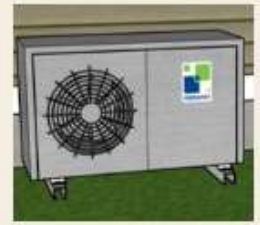
Thanks to them, your energy bills will lower.

Solar panels >>>

A solar panel is a very interesting solution to efficiently get green and sustainable energy. A solar panel, also called photo-voltaic module, is an assembly of photo-voltaic cells that use sunlight as a source of energy to generate proper electricity which you can use to charge your car or illuminate your house. By putting enough solar panels, our house is totally self-dependent as far as electricity is concerned. Our electrical installation is surely the best on the market and it provides plenty of electricity. In most cases, our customers tend to produce electricity, they produce more than they use, and that is a big advantage.

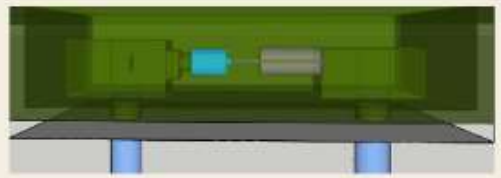
Heat pump >>>

To heat their house, most people use gas or fuel oil; we don't. To heat our eco-friendly house, we use a heat pump. Heat pumps are known for their efficiency, they can heat or refrigerate a house with very little energy. The process is based on the refrigeration cycle, it works like a fridge. Using a heat pump will allow you to heat or refrigerate your house with very little energy. Furthermore, a heat pump combined with a great insulation is the best plan.



Geothermal energy >>>

In order to be even more eco-friendly and energy efficient, our house is built on a geothermal source. It allows you to take this natural heat and use it to heat the hotwater tank. The principle is simple. Thanks to pipes, we get energy from natural phreatic tables or from deep in the ground, and we use it to heat what we want. The heat in the core-mantle boundary can reach 4000°C. Geothermal energy is very sustainable because the energy is endlessly refuelled like wind, sun or rain. In doing so, all the hot water you use, whether you use it to cook or take a shower, is heated by the geothermal energy you get, so you no longer spend energy on heating water and in addition to be very energy efficient, the heat bills will go down.



Insulation >>>

Insulation in a house is one of the main factors to be concerned of. A great insulation massively reduces energy consumption. The walls of our eco-house are isolated in a way that only a fraction of the heat escapes the house. It's made of sheep's wool: sheep's wool is a natural, sustainable, renewable, recyclable material and totally biodegradable that does not endanger the health of people or the environment. It's a thick, dense material, making it an excellent insulator. Thanks to that, its compressed wool fibers form air pockets that trap air to keep us cool in the summer and warm in the winter. The breathable material's inner layers absorb moisture without affecting its ability to retain heat. Because of wool's properties, there is no need to constantly adjust your heating and cooling systems, which saves energy and money. Furthermore, we built double glazing windows and hermetic doors, so heat loss is drastically reduced: they effectively reduce the transfer of heat. The insulating gas in the void between the panes prevents heat from passing through. In doing so, you will no longer need your heater to work all day to maintain your house temperature. Once the desired temperature reached, you could turn your heater off and not worry about it anymore.