**Preparation for the international group work**

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| topic | Germany | Estonia | Hungary | Tenerife | Martinique |
| biodiversity | Dramatic **decline in insects** Campaign: Farmers plant flowers for bees„hour of garden birds“: Thousands of people count birds every year The **wolf** is coming back The German Wadden Sea | \* We have an electronic biodiversity database, nature cameras, nature houses and many nature hiking trails\* In Europe, we hunted rare animals to maintain the balance of nature\* we have 6 national parks, 172 nature reserves; it is 18% of Estonian surface\* forest area is 50% of Estonian territory\* Climate warming has increased the number of infectious diseases in animals (African swine fever) and the abundance of some species (wild boar)\* Great invasion of alien species (most recently chacal) on land and in the sea (traveling crab)\* We have a very large species diversity of 57 latitude |  | Some species of animals have been extinguished like foca monje “Monk seal since 400 years agoOthers are threaned like Gomeran lizard,Canary corvus,And “Guirre” (Anspecie of vultureCanary government has implemented a campaign in order to avoid their extinction.We have about 500 species of endemic plants.These species are threaned by the introducction of foreign species | Lot of animals species are protected : turtles, bird, iguana, marine mammals, bats, spidersEcosystem as well : mangrove (Saint Anne Lamentin, …) coral reef barrier 5Saint-Anne..), rivers (Rivière Blanche), tropical forest (Montravail, Vatable, Domaine d’Emeraude…)Algae Invasion: SargassesFish invasion: lion FishDecrease of sea urchins and other marin ressources (langouste, conch of lambis, typical fishes..)Largest diversity of medicinal plant is from the Caribbean  |
| climate change | **Glaciers**More and more North American **douglas firs**  are planted – they cope better with dryness than local sprucesDrained **bogs** in Germany emit vast amounts of greenhouse gases Some animals spread, e.g. the dangerous ticks Climate change will bring more droughts, floodings and heat wavesThe German Wadden Sea in in danger | \* good work in the press, social media and television\* 2018 we organized World Clean Up Day\* On March 15, Climate Strike For Future / #FridaysforFuture took place in Tartu and Tallinn\* we do not have direct climate change: the last two summers and the warmer winter\* migratory birds arrive earlier\* invasive alien species\* damage to agriculture (lack of snow) and forestry (damage to wild boar and elk)  | * National Strategy of Climate change (NÉS) which foresees the changes in Hungary and offers solutions for the upcoming problems
* Annual average temperature has extreme values all over Hungary
* The amount of annual average precipitation is lower with every year (rises problems with drought in agriculture)
* When it rains, it does it in a short notice with extreme amount of water: this causes floods all over the country
* Heatwaves, that came unexpectedly ( as a consequence in Hungary the daily mortality increase by 15%)
* Emission of greenhouse-gases: the value of 2014 is the lowest (since 1990) with 57 million tonne
* In Europe besides the southern countries, the Carpatian Basin is exposed most to climate change
* Climate change will modify the spatial and temporal spread of several vector-borne diseases. In Hungary the tick-borne Lyme disease is expected to increase, but some mosquito-borne diseases will appear as well.
* <https://mersz.hu/hivatkozas/matud_f10359>
 | **Droughts** are increasing in Canary Islands. The frequency of warm winds coming from Africa is producing an increasing of temperatures. | The acidification of the seas kills the coral reefMore often and bigger hurricanes in the CaribbeanNo more differences between Lent and rainy seasonRising waters create erosion(weathering) and floodings |
| energy | **Energy transition in Germany!** Nuclear power stations will be turned off soon; alternative energies are subsidized**Electric cars**Until recently, street lamps burn all night in Neresheim – light pollution!  | \* The share of renewable energy (sun, wind) by 2020 must be 30%\* greater resistance from wind power is the resistance of landowners\* 70% of all air pollution in Estonia is generated by burning oil shale\* oil shale abandonment costs one billion euros a year; electricity prices are rising and 15,000 people are losing their jobs\* Electricity revenue is € 150 million per year\* The new (2018) power plant has low air pollution and burns and biomass\* The use of electric cars is not reasonable, because then electricity should be cheap and it should be produced from renewable energy\* For us, energy security is important, which can now be guaranteed by oil shale    | * hydroelhydroelectric power –In Hungary there isn’t any notable hydroelectric power usage. The two main hydroelectric station is at the River Tisza
* solar power – In Hungary solar power usage is widening and improving. The tree main solar power plants can be found at Paks, Bükkábrány and Felsőzsolca.
* wind power – In Hungary wind power plants aren’t really used. Only 25% of the generated power is used. Most of the windturbines are placed at the Kisalföld (which means lowland)
* biomass – The most of the renewable energy in Hungary is from biomass. Biomass means every organic waste coming from plant or animal that can be reproduced. In Hungary biomass comes mainly from agricultural by-products and plants produced specifically for this purpose, for example  energy grass.
* For instance: In the Sugar Factory in Kaposvár the by-products are depurated so biogas became a great source of energy for the city.
* geothermal energy -  In Hungary, the geothermal gradient is higher than the average (45–50 °C/km), so that Hungary is one of the main countries, which can use their geothermal energy well. With this energy we can heat whole towns as well as residental and industrial buildings and greenhouses.
* nuclear power – In Hungary we have only one nuclear power station, at Paks. This energy can be used in the industry, in the agriculture, in the healthcare and in scientific researches.
* One of the advantages of using nuclear power is that it is free from harmful emissions in a proper operational safety environment, so global pollution is lagging behind. In the event of an accident, however, the polluting effect is very significant. The cost-increasing factor is the storage of radioactive waste.
* In 2015, 7.3% of gross electricity generation was made up of renewable resources? . Of this, 52% were biomass, 22% wind, 9% biogas, 7% hydropower, 6% renewable municipal waste and 4% solar energy
 | **Green energies** are just the 10% of the total amount of source of energy although, has a great potential.Most of the pollution is produced by cars exhaust | We have an energetic transition plan : a gradual abandonment of fossil fuels in favor of renewable energies (2 wind farm, 4 panel solar farm, biomass power plan…)Hybrid cars such as Toyota Auris **HYBRID**  are becoming Common because of our landscapeImprouvement of Public Transportation to decrease the number of private cars in MartiniqueSchool Educational programm to avoid energy waste (Watty à l’éocle) |
| waste | **rubbish separation** What is done to avoid rubbish?Ban of rubbish dumps | \* 80% of Estonian waste is related to oil shale\* municipal waste is less than the EU average\* In 2020, we will have to recycle 50% of the waste\* current situation: 28% recycled, 17% dumped and 55% burned for heat\* 2018 we organized World Clean Up Day\* We have a good metal, plastic and glassware collection system | * As in many EU countries, Hungary also has unfortunately:

-Landfill/Rubbish dump holds numerous squares of grounds ->Besides: causes air-, water and soil pollution-Burn of rubbish also means the emission of air pollutioning materials* AIM: to reduce the environmental and health damaging effects, and increase the effectiveness of the power equipments in the EU -> with recycling
* we can find some places in Hungary where the hazardous waste is taken from the housholds.->the main REASONS OF THE SLOW PROCESS is that we have much less inspiration to collect the waste seperately and the equipments are also not that appropiate.
* Statistics prove :
* -Hungary takes place as the sixth lowest generator of trash in the EU(379 kg) ->It is well below the EU average(480 kg)                          -HOWEVER, from the 14 states in the EU, Hungary also tend to have the threat that it won’t be able to reach the 50% recycling number to year 2020.
* -In Hungary, there are 5000 waste collecting islands  -> that means it’s 485000 tons of waste(there are also collections going directly to houses)
* An EXAMPLE to an effective power-station: The Metropolitan Waste-Recycling Station( Fővárosi Hulladékhasznosító Mű) is able to burn 420000 tons of waste every year without any harmful effects. Here disappears the 60% of waste of Budapest. It produces heat- and electrical energy.
* Problems with hazardous chemical  waste: An EXAMPLE to a soil polluted area is at Illatos Road:-there is a significant soil- and ground water pollution from the 50s. According to searches, the pollution went either 50 or 60 meters deep down.

 Problems with radioactive waste: | waste is discharged into the sea without purificationAlthough throwing the spill into the sea is punished by Spanish laws. Day by day we can read in press notices about uncontrolled spillsThere is proliferation of microalgas in the sea | Rubbish separation Sewage programRecycle of cans, bottles, iron in Martinique or in GuadalupeClean walk or clean day every year with population  |
| agriculture / forestry | **forestry:** More and more North American **douglas firs**  are planted – they cope better with dryness than local sprucesSustainable forestry has a long tradition in Germany Monocultures are mostly avoided nowMany Christmas tree plantations around Neresheim**agriculture:** Organic farms in GermanyPesticides | \* 50% forest covered; 20% of forests under nature protection\* stringent environmental requirements\* we have organic cereals and vegetables grown in Estonia\* too much clearing in forests\* We sell wood, not wood products\* We have significantly lower agricultural subsidies than other EU countries |  | The exaggerated use of pesticide can damage the wildlife, specially the “guirre¨severely threatened by this cause | Bananas and sugar cane are intensive production in agriculture otherwise small and diversify agriculture unit to avoid massive use of pesticides which destroy the biodiversity.Bananas is now producing with organic normsAgriculture landscapes are protected from buildings, deforestation in controlled and must be allowed Rivers are controlled from pollution (no cars washing, no dump, no liter…) |

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