# EnergyCase

**Modern & green energy solutions**

**ITER fusion reaction**

ITER is the largest fusion machine in the world

It works by smashing hydrogen together at very high speeds casuing a fusion reaction that emits a lot of heat

The same fusion reaction is happening in the suns core but the human made fusion reaction is getting 10 times wamer reaching tempreuates of 150,000,000 degrees Celsius

With countries all over the world contributing to the build & research to complete the machine (including denmark)

With more than 60 years in the makings the ITER reactor is far from finished

**Nuclear reaction**

A nuclear reaction is close to a fission reaction but a difference process (fission)

In a nuclear reactor atoms split apart by colliding with the radioactive substance (Uranium 235)

Releasing heat energy & byproduct atoms

Nuclear power plants are a effectively way of harvesting green & almost Co2 free energy

**Windmills & Solar panels**

Windmills & solar panels are a Co2 free energy producing invention

However using this source of energy cannot stand alone as sometimes its not sunny or windy

But this is a great green source of energy that we should expand the production of for a more sustainable energy production

**Fossil fuels**

The issues with fossil fules such as coal, oil & gas is for example

Operating a **coal-fired** power station emits 820 grams of Co2 for every kWh which is the highest Co2 emission out of all of the fuel types

**Oil rigs** collects crude oil from the earth then it will be processed at oil refinery plants then vehicles consumes the refined product as a fuel type emitting huge quantities of Co2 this creates major issues with pollution

Operating a **gas-fired** power station emits nitrogen oxides that creates smog that can cause respiratory health issues and long time exposure can cause chronic lung disease

Fossil represents 80% of the world's energy production this is a horrible solution for humans and especially the environment

**Co2 emissions**

In 1900 roughly 2 billions tons of Co2 was emitted and in the year 2000 roughly 25 billions tons of Co2 was emitted thats over 10 times then what was emitted 100 years ago

In 2021 denmark emitted roughly 30 million tons of Co2 thats 5000 tons of Co2 per citizen

80% of the world's energy production comes from fossil fuels such as gas, coal and oil

Uploading a 6 seconds video uses the same amount of energy as boiling 84 liters of water

The internet consumes 9% of the world's total energy and emits 2% of the world's total Co2 consumption

Thats more then the worlds combined flight Co2 emissions

France has 56 nuclear power plants and the 4 power plants located in tricastin cover denmark's entire energy usage

# BlameGame (Notes)

**Ghana**

**Economy**

28% of the populcation are in the industrial workforce

The average monthly salary is roughly 400€

But many outside the industrial workforce earn next to nothing

**Education**

About 18% of Ghana's GPD is spent on education

Ghana offers a 6-3-4-4 school system

Primary School – 6 years

Junior Secondary/High School – 3 years

Senior Secondary School – 3 years

(Senior High School entrants 2007- 2009 – 4 years)

University Bachelor’s Degree – 4 years

The public schools cost roughly 65€ pr year pr student

**Healthcare**

Since 1992 Ghana offered public education about health condition, service delivery and human resource improvement

From 2015 the estimated birth to death ratio were 61 deaths per 1000 births

**Demografi**

In 2005 the estimated populcation of Ghana were 22.535.000

37,8% were Younger then 15 years old

58,7% where in the range 15-64 years old

While only 3.6% were older then 65 years old

Leaving the median at 38,4 years old

Life expectancy 58,65 years for males and 60,35 for females

**Government**

The government of Ghana was founded on july first 1960 as a parliamentary democracy

**Workplace**

The workforce is widely divided between harsh industrial work and the more classic work-type as we know it in the west

**Social**

The social conduct can impact the entire family and community so everyone is expected to be respectful

**Denmark**

**Economy**

Denmark has a GPD of $405.6 billion as of 2023

With the average salary being 6,107€ monthly

**Education**

Denmark offers free mandatory education for childen under 16 years old

Roughly 82% of young adults push thier education further after the 9th grade

**Healthcare**

Denmark offers free health for danish citizens

Denmark uses 10.4% GPD on Healthcare

**Demografi**

See https://www.dst.dk/da/Statistik/emner/borgere/befolkning/befolkningstal

# BlameGame (Notes)

**Government**

The danish government consists of 2 parts the red part and the blue part

Each side of the government has different parties with separate politics

**Workplace**

The general danish place is considered good with flexible working hours

With a standard of 37 hours weekly and working overtime is generally discouraged

**Social**

The danish populcation is generally very social and relaxed as we are amoung the happiest people in the world

**USA**

**Economy**

Usa has a GPD of $26.856 trillion with the average salary being €5,052 monthly

**Education**

Usa uses roughly 7.2% of GPD on education with free public school

By 2017 roughly 70-90% graduate from high-school

**Healthcare**

A few states offer limited free healthcare but the majority doesn't

In California the average hospital price is 2.883$ pr day and it easily gets more expensive from there

**Demografi**

The estimated populcation in 2023 is 333,287,557 people

See https://en.wikipedia.org/wiki/Demographics\_of\_the\_United\_States

For age viority

**Government**

The government was founded in 1789 more then 200 years ago

With a president representing the country

**Workplace**

Usa uses a wage and minuim wage system that many americans life By

The tax bracket is low compared to denmark

Usa has farely limited holidays with a total of 11 as of 2023 which is also low compared to denmark

**Social**

Some states in Usa has a unrestricted firearm licence system that is a very controversial political subject

Sustainability (Notes)

**The 3 E's**

**Environment**

**Equity**

**Economi**

**The replacement rate**

(imagine a bathtub that must be in balance with how much water/resources we use)

We need economics that allows us to thrive whether or not it grows

**There are 5 stages of economic growth**

1: traditional where the nation's output is limited by technology, institutions and mindset

2: the begining of the banking industry where the belief for economic growth is necessary for a better life

3: the interest in economic growth becomes the norm

4: the drive to have any industry no matter natural resources any

5: the high-mass consumption phase where consumers can purchase any goods they desire

Economic growth can never go down only higher

We are addicted to economic growth

All futures includes groth no matter the choice

We dont have enough resources to bring eveyrone inside the green donut circle

We need to resycle better so the resources are never used up but used again and again