

GEOTERMALNA ENERGIJA IN KRITIČNE SUROVINE

GEOTHERMAL ENERGY AND CRITICAL RAW MATERIALS



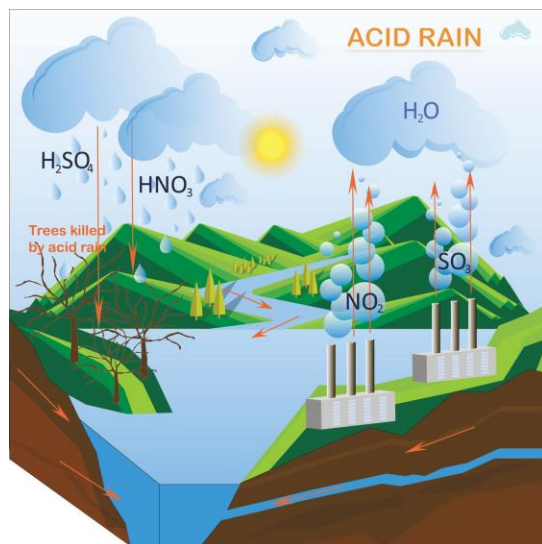
1 - TOPLOGREDNI PLIN (GREENHOUSE GAS)

FOSILNA GORIVA

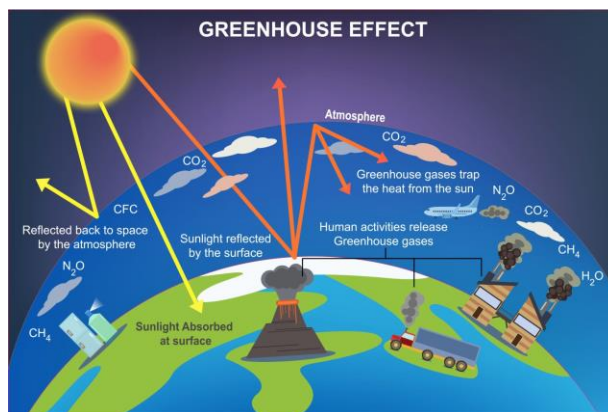
- PREMOG, NAFTA, ZEMELJSKI PLIN
- NEOBNOVLJIVI VIRI ENERGIJE
- ONESNAŽUJEJO ZRAK
- KISEL DEŽ
- UČINEK TOPLE GREDE

FOSSIL FUELS

- COAL, OIL AND NATURAL GAS
- NON-RENEWABLE ENERGY SOURCES
- AIR POLLUTION
- ACID RAIN
- GREENHOUSE EFFECT



2 - KISLI DEŽ (ACID RAIN)



3 - UČINEK TOPLE GREDE (THE GREENHOUSE EFFECT)

FOSILNA GORIVA

Premog, nafta in zemeljski plin so nastali iz ostankov rastlin in živali, ki so živele pred milijoni let. Imenujemo jih **fosilna goriva**. Iz njih dobimo večino energije, ki jo danes potrebujemo za kuhanje, pogon avtomobilov in ogrevanje.

Žal pa fosilna goriva pri zgorevanju onesnažujejo zrak. Nastane plin **žveplov dioksid**, ki reagira z vlago v zraku in pri tej reakciji nastane **žveplova kislina**. Posledično povzroča **kisel dež**, ki zakisa vodo v jezerih, rekah, kar povzroča propad rastlin in pogin živali.

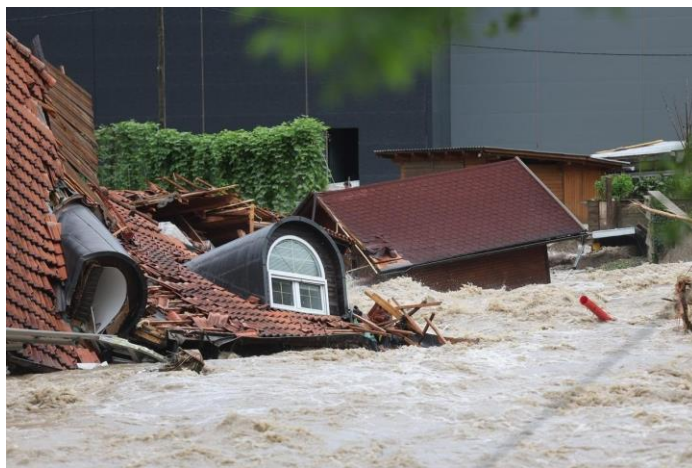
Plini, ki nastajajo pri zgorevanju fosilnih goriv, povzročajo tudi pojav **tople grede**. Nastaja **ogljikov dioksid**, ki je sicer pomemben za potek fotosinteze v rastlinah. Zaradi velike porabe fosilnih goriv pa ga danes nastane več, kot ga lahko rastline porabijo. Količina ogljikovega dioksida v ozračju narašča in okrog zemlje tvori oblak, ki sicer prepušča toploto od sonca, vendar ne prepušča toplote, ki se vrača nazaj v vesolje. Toplota se odbije od oblaka in se vrne nazaj na zemljo.

Če bodo temperature na Zemlji preveč narasle, se bo spremenilo vreme in podnebje, kar bo spremenilo živalski in rastlinski svet. Led okrog tečajev se bo začel taliti, zato se bo dvignila morska gladina in morje bo poplavelo obalna območja.

Fosilna goriva so **neobnovljivi vir energije** in jih ne bomo mogli večno izkoriščati. Predvsem zaradi onesnaževanja zraka in globalnega segrevanja jih bomo morali nadomestiti z energijo iz drugih čistejših, obnovljivih in trajnostnih virov; kot so sončna energija, energija vetra, vodna energija, biomasa, bioplin in geotermalna energija.



4 - NAJVEČJI POŽAR V ZGODOVINI SLOVENIJE, 2022 (THE BIGGEST FIRE IN THE HISTORY OF SLOVENIA, 2022)



5 - NAJVEČJE POPLAVE V SLOVENIJI, 2023 (THE BIGGEST FLOODING IN SLOVENIA, 2023)

FOSSIL FUELS

Coal, oil and natural gas were formed from the remains of plants and animals that lived millions of years ago. They are called fossil fuels. We obtain the majority of the energy needed for cooking, powering cars, and heating from these sources.

Unfortunately, the combustion of fossil fuels pollutes the air. Sulfur dioxide gas is formed, which reacts with moisture in the air and this reaction produces sulfuric acid. As a result, it causes acid rain, which acidifies the water in lakes and rivers, which causes the collapse of plants and the death of animals.

Gases generated during the combustion of fossil fuels also contribute to the greenhouse effect. Carbon dioxide is produced, which is essential for photosynthesis in plants. However, due to the extensive use of fossil fuels, more carbon dioxide is generated than plants can absorb. The greenhouse effect is a phenomenon when greenhouse gases in the atmosphere absorb part of the heat radiated by the Earth's surface. Then part of this heat is radiated back towards the Earth's surface and heats it up additionally.

If Earth's temperatures rise too much, weather and climate patterns will change, affecting both the plant and animal kingdoms. Ice around the poles will start melting, causing a rise in sea levels and flooding coastal areas.

Fossil fuels are a non-renewable source of energy and we will not be able to exploit them forever. Mainly due to air pollution and global warming, we will need to replace them with energy from other cleaner, renewable and sustainable sources, such as solar energy, wind energy, hydropower, biomass, biogas and geothermal energy.



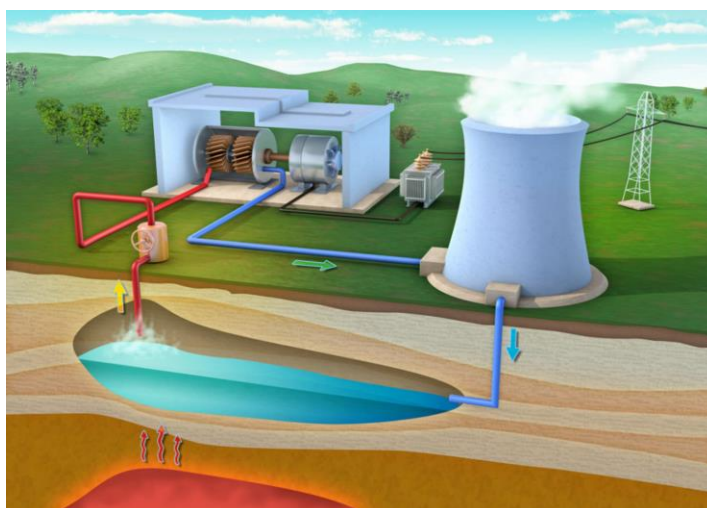
6 - SONČNA ENERGIJA (SOLAR ENERGY)



7 - ENERGIJA VETRA (WIND ENERGY)



8 - HIDROELEKTRANE (HIDROELECTRIC POWER PLANT)



9 - GEOTERMALNA ELEKTRARNA (GEOTHERMAL POWER PLANT)

GEOTERMALNA ENERGIJA

Geotermalna energija predstavlja inovativno rešitev za zmanjšanje odvisnosti od fosilnih goriv. Uporablja se za ogrevanje domov, toplic in celo za kmetijske namene. Ta oblika **obnovljive energije** prispeva k zmanjšanju emisij ogljikovega dioksida in ustvarjanju trajnostne prihodnosti. V občini Lendava gradijo prvo geotermalno elektrarno v Sloveniji.

Poglejmo, kako geotermalne elektrarne izkoriščajo naravno vročino iz notranjosti Zemlje, da proizvajajo čisto in trajnostno energijo.

POSNETEK:

<https://365.rtv slo.si/arhiv/ugriznimo-znanost/174902185>

GEOTHERMAL ENERGY

Geothermal energy represents an innovative solution to reduce dependence on fossil fuels. It is used for heating homes, spas and even for agricultural purposes. This form of renewable energy contributes to reducing carbon dioxide emissions and creating a sustainable future. **The first geothermal power plant in Slovenia is being built in the municipality of Lendava.**

Let's explore how geothermal power plants harness the natural heat from the Earth's interior to generate clean and sustainable energy.

VIDEO CLIP:

<https://365.rtvlo.si/arhiv/ugriznimo-znanost/174902185>

KRITIČNE SUROVINE

- ZAGOTOVITI ZALOGO KRITIČNIH SUROVIN ZA PRIHODNOST
- KREPITEV DOMAČIH DOBAVNIH VERIG
- RECIKLIRANJE KRITIČNIH SUROVIN

CRITICAL RAW MATERIALS

- ENSURING SUPPLIES OF CRITICAL RAW MATERIALS FOR THE FUTURE
- STRENGTHENING DOMESTIC SUPPLY CHAINS
- RECYCLING CRITICAL RAW MATERIALS



KRITIČNE SUROVINE

Vendar pa se soočamo s težavami pri pridobivanju kritičnih surovin.

Da bi rešili težave, industrija išče trajnostne načine pridobivanja kritičnih surovin, ki so bistvene za izdelavo geotermalnih sistemov.

Recikliranje, nadzorovano pridobivanje surovin in inovativne tehnologije so ključni koraki k ohranjanju našega planeta.

Poglejmo posnetek zagotavljanja oskrbe s kritičnimi surovinami, potrebnimi za pametne telefone, električne avtomobile, sončne panele in druge izdelke.

POSNETEK:

https://multimedia.europarl.europa.eu/sl/video/acceder-aux-matieres-premieres-cles-pour-la-transition-numerique-et-ecologique-de-lue_N01_AFPS_231215_DL06%20%0d5

CRITICAL RAW MATERIALS

However, we are facing challenges in obtaining critical raw materials. To address these issues, the industry is exploring sustainable ways of sourcing critical raw materials, essential for the production of geothermal systems.

It is crucial to recycle critical raw materials, reduce imports from other countries, strengthen domestic supply and ensure a reserve of raw materials for the future.

Let's take a look at the video on ensuring the supply of critical raw materials needed for smartphones, electric cars, solar panels, and other products.

VIDEO CLIP:

https://multimedia.europarl.europa.eu/sl/video/acceder-aux-matieres-premieres-cles-pour-la-transition-numerique-et-ecologique-de-lue_N01_AFPS_231215_DL06%20%0d5

ZAKLJUČEK

Da bi ohranili naš planet, industrija išče trajnostne načine pridobivanja kritičnih surovin, ki so bistvene za izdelavo geotermalnih sistemov.

Recikliranje, ponovna uporaba, opustitev plastike za enkratno uporabo in podpora trajnostnim izdelkom so ključni koraki k ohranjanju našega planeta.

Skupaj lahko oblikujemo prihodnost, ki bo temeljila na trajnostni energiji in odgovornem ravnanju s kritičnimi surovinami.

Geotermalna energija in trajnostno pridobivanje kritičnih surovin nista le rešitvi za podnebne spremembe, temveč sta tudi ključ do boljše, čistejše in trajnostne prihodnosti.

Imamo samo en planet, ohranimo ga!

»Naš modri planet je najbolj čudovito možno naravno okolje. Njegovo življenje je naše življenje, njegova prihodnost je naša prihodnost.« (Dalaj Lama)

CONCLUSION

In order to preserve our planet, the industry is seeking sustainable ways of sourcing critical raw materials essential for the production of geothermal systems.

Recycling materials, reusing, phasing out single-use plastics, and supporting sustainable products are crucial in the fight against climate change and the preservation of our planet.

Together, we can shape a future based on sustainable energy and responsible management of critical raw materials.

Geothermal energy and the sustainable extraction of critical raw materials are not only solutions to climate change, but also keys to a better, cleaner, and more sustainable future.

We only have one planet, let's preserve it!

» Our blue planet is the most wonderful natural environment possible. Its life is our life, its future is our future.« (Dalai Lama)

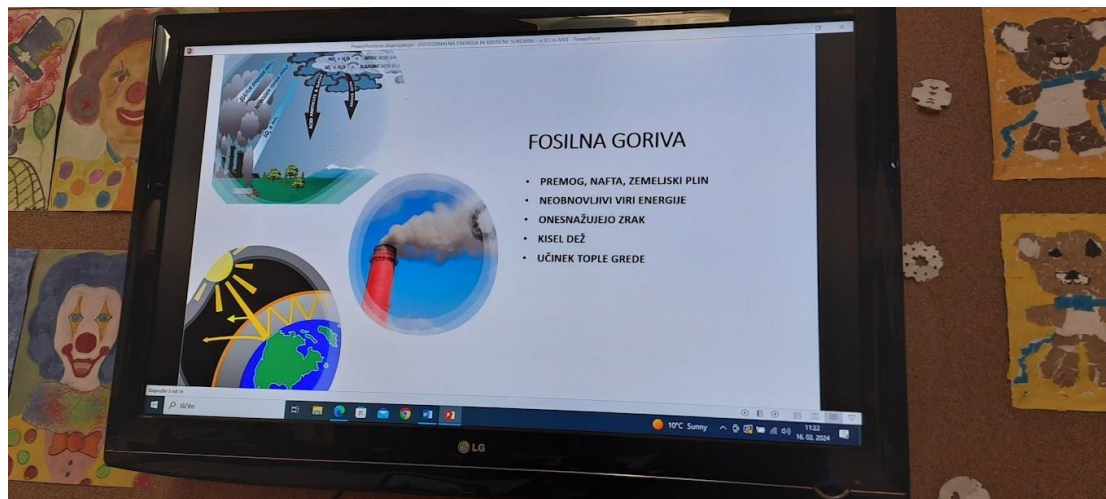


11 - OHRANIMO NAŠ PLANET! (PRESERVING OUR PLANET!)

MEDGENERACIJSKO IN MEMPREDMETNO UČENJE V AVLI ŠOLE











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VIRI (SOURCES)

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