

Iceland
Liechtenstein
Norway grants



Ministerstvo financí
České republiky

REPORT ON THE PROJECT OF COOPERATION IN EEA GRANTS

Name: Patrik Malec
Project: Comparison of energy potencial of Iceland and the Czech Republic
Date: 1/ 8/ 2021 – 31/ 8/ 2022
Schools: Technical College Reykjavík a Technical College Jihlava
Place: Iceland and the Czech Republic

My stay in Iceland

When we were given a chance to go to Iceland I didn't hesitate and took the amazing opportunity to see such a beautiful foreign country. Our visit was scheduled from 24.4.2022 to 8.5.2022. Our journey began with a seven-hour bus ride to Munich where we took a three-to-four-hour flight with a traditional Icelandic airlines Icelandair. I must say that I had a very pleasant flight. When we landed at the airport, we were still fairly far away from the capital Reykjavik so we took an hour-long bus ride. On the way there we noticed that the Icelandic landscape is drastically different from ours. Kilometers and kilometers of grey rock spreading through the countryside. Occasionally a few bushes or small trees here and there but no real forests or anything like that. When we finally arrived in Reykjavik we were warmly greeted by our Icelandic friends and they I took us to their houses to accommodate us and give us some needed rest.

On the second day of our stay, we were introduced to our partner schools main building. The interior was modern and pleasant with bunch of sofas and armchairs in the hallways for students to hangout on on their breaks. We spent a fair amount of time in the makers space which is a classroom where students get to express their creativity and so we did just that by designing a T-shirt. It turned out great. Aside from machines for printing on T-shirts there were also 3D printers a small recording studio and an impressive driving simulator for

construction vehicles. In our later visits of the school, we also played an escape room game and had a few presentations.

One of those presentations was even done by the Icelandic minister of environment, energy and climate Gudlaugur Thór Thórdarson. He talked about sustainable energy future and energy policy to the year 2050. Some of the government's objectives are: public energy needs met at all times, energy system diversification, Iceland being unreliant on fossil fuel by transferring to clean source for its land, air and sea transport. They also want: minimalization of environmental impact, efficient and competitive energy market, equal access to energy countrywide and energy efficiency improvement plus minimalization of waste. After he finished his presentation, we were asking him all sorts of questions and he politely answered when he knew the answer.

Another presentation that we had was about carbfix. It's a way of binding carbon dioxide to a common rock in Iceland called basalt. It is rich in Titan, Iron Chalk and Magnesium oxide which makes it a good stone for binding carbon dioxide and converting it to stone. About 25% of the weight of the basalt needs to be Iron, Chalk and Magnesium for the reaction to work. Basalt has a lot of air space in it because the gasses that are in the magma are trapped in the lava when it cools rapidly on the surface, therefore creating small air bubbles in the stone. This is a great benefit because it increases the surface area of the rock so that it reacts faster with the carbon dioxide. When the water and carbon dioxide solution is pumped into the ground it quickly creeps into all the nooks and crannies of the basalt rock and because of the underground pressure the carbon dioxide separates those metals from the basalts and binds to it, converting the carbon dioxide into carbon, similar to what is in a common pencil.

Like I previously mentioned Icelandic countryside is very different from the Czech one but that doesn't mean it's not beautiful. I would drive forty minutes daily with my Icelandic friend to get to Reykjavik since we lived in a different town called Hveragerði and on the way there I would see bunch of grey rocks covered with moss and behind them a beautiful mountain range. Its tops were covered with snow and I would get a sensation of calm whenever we drove to the capital. There were also natural hot springs near the town I was staying in and we visited them with all the students and teachers. The water was a bit shallow but very warm. So, we laid there for a few hours and enjoyed the Icelandic nature. It was very relaxing and I think everybody enjoyed it. Some even went to have fun in the snow.

But before all that we went to a geothermal power plant that was nearby. There we learned about how such a power plant works. Geothermal power plants use steam to produce electricity. The steam comes from reservoirs of hot water found a few miles or more below the earth's surface. The steam rotates a turbine that activates a generator, which produces

electricity. Geothermal power plant is something that we don't have in Czech Republic so it was an interesting experience.

We of course visited the golden circle as well since it's a place that every tourist that goes to Iceland has to visit. It is a place for hiking. We walked around and admired the beauties of the countryside. There were beautiful mountains, lakes and one of the biggest waterfalls in Iceland. And I can't forget the geysers. The one we were watching erupts every six to ten minutes and shoots water up to a height of forty meters. We waited to see it erupt and it was quite a sight.

On one day the program was to go to the blue lagoon. We were all really excited to go there since it's one of the Icelands most known places and also one of the more expensive places to get to. And going there was certainly worth it. The water in there was murky and had beautiful light blue color with steam rising from it so it was pretty hot and pleasant to be in and the place had overall an interesting and kind of mysterious atmosphere. The Blue Lagoon is blue because of the way silica the lagoon's iconic and most abundant element reflects visible light. The Blue Lagoon is blue because of the way silica the lagoon's iconic and most abundant element reflects visible light when suspended in water. The blue lagoon was created by runoff water from the nearby Svartsengi geothermal power plant that trickles into the lava fields and a blanket of mineral-rich mud lines the foundations of the Blue Lagoon. The mud had a white color and you could put it on your face like a cosmetic mask and it is said to be very good for your skin.

My favorite part of our stay was going to swimming pools. We went to one on almost every occasion. And every one of them had amazing hot tubs and saunas. Everything was heated by geothermal energy. I must say that I'm really going to miss those pools I spent a great amount of time in them just talking to my friends and relaxing.

Icelandic graduate students have a fun and interesting tradition that we took part in on one day. Each graduating class dresses up in a costume people from the same class usually have the same costume and they also get a list with crazy random tasks. Next few hours are spent running around the city and completing them. They get points for each completed task and the class with the most points wins. We didn't win but we had an amazing time doing random activities in Reykjavik while wearing squid game masks.

The day before we had to go back to the Czech republic we had a rather interesting unique experience. We went to a flight simulator called Fly Over Iceland. The simulator took us over Icelandic mountain tops and rivers. The screen was huge and our seats moved and as they moved cold air was blowing in our faces and there was moisture sprayed in the air. All together this created an almost perfect sensation of flying. It felt so real and the countryside we saw was very beautiful. I strongly recommend this simulator.

On the last day we had to wake up very early to catch the flight. We said goodbye to our Icelandic friends and drove away in a bus waving at them as they disappeared in the distance. I think this project was a major success and I'm very grateful for the opportunity. It was an amazing experience. I have made some new friends, learned new things and got a taste of a different culture. So big thank you to everybody that was involved and made this project possible. I hope I get to come back to Iceland one day.

Tento projekt byl realizován za finanční podpory Fondů EHP.

Za obsah sdělení odpovídá výlučně autor. Sdělení nereprezentuje názory Fondů EHP. Současně Fondy EHP neodpovídají za použití informací, jež jsou jejím obsahem.